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### Irish H & V News

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# IRISH H&V NEWS

FEBRUARY 1985

IRELAND'S BUILDING SERVICES MAGAZINE

## Heatbugs in Kilkenny

Wexford-born development engineer, Richard Hamilton, who describes his Heatbug back-boiler as "a revolution in solid fuel central heating", has opened a factory in Kilkenny producing the product and providing employment for 25 people.

Situated in Thomastown, R Hamilton Developments Ltd are already in full production and claim that the Heatbug is Ireland's fastest-selling boiler.

Kilkenny Design Workshop Chief Pat Henderson performed the official opening ceremony late last month.

## P & H SERVICES COLLAPSE — WHO IS TO BLAME?

The recent demise of Plumbing and Heating Services Ltd brings home the hard facts of life of company failure; it affects not only the owners of the company but also its suppliers, its customers and of course its employees.

Within the next year we will have a whole new set of legislation covering company failure. The Department of labour is presently piloting through a new Insolvency Bill. In addition, we are also promised a new Companies Bill covering

the duties of directors and limited liability from the Department of Industry, Trade, Commerce & Tourism, as well as the implementation of the 4th Directive on disclosure of information by private companies.

So, in the near future the failure of a private company will be subject to greater

scrutiny by creditors, employees and the public in general. Regretably, today an examination of company failure can only be a matter of conjecture. However, the failure of P & H Services does raise a couple of questions. How come the biggest contractor to New Dublin Gas goes

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## Irish-Made Dehumidifier Launched by Unitherm

A new company, Unitherm Ltd, has launched its first product, a dehumidifier, which it manufactures at the IDA Enterprise Centre, Pearse Stret, Dublin. Unitherm is owned by Don Northen who has returned to Ireland having sold his successful engineering companies in Britain and Canada.

The Unitherm "Damp-guard" dehumidifier is designed for office and domestic use. It may also be used in combinations for large indus-

trial premises or warehouses. The "Dampguard" will sell for £295 plus VAT which, the manufacturers claim, is approximately half the price of similar capacity dehumidifiers all of which are imported.

The Unitherm "Damp-guard" operates on a heat exchange principle drawing wet air from its surroundings and returning warmer dry air. It is capable of extracting more than two gallons of water

• Continued on page 5

**IHVEX '85 — BOOK NOW AND DON'T BE DISAPPOINTED**



The organiser's decision to make IhVex '85 a totally separate and self-contained mechanical services exhibition (as opposed to linking it with Ilectra as in previous occasions) has been fully vindicated by the industry. The response to date has been overwhelming with an unprecedented demand for stand space. In addition to the old and more established names there are also a significant number of new exhibitors, all of whom reflect the changing but nonetheless increased nature of the mechanical services industry. The return to the Industries Hall at the RDS should also prove popular with visitors as indeed will the free buffet-luncheon scheme. If you're interested in participating in what looks set to be the industry showcase for the year, contact Joe Warren immediately at 885001. Do it now and you won't be disappointed!

### Appointments at Midland Int.



• Peter Feeney

Midland International Ltd, the Bailieboro-based manufacturers of Flair bathroom products, have appointed Peter Feeney Sales Manager for the Republic of Ireland.

Mr Feeney succeeds George Brassil who has been appointed a Director with responsibility for Sales and Marketing at the Group's UK subsidiary, M I Flair Ltd, Liverpool.

Both Mr Feeney and Mr Brassil have been with the Midland International Group for a number of years.



# Design and Build to **LIVE ELECTRIC** with the **New Economy Rate**



Make sure your development has the built-in benefits of less than half-price electricity. That's what the new economy rate offers the new home owner of today – electricity for heating, water heating and any other domestic use at less than half the normal rate. For a full nine hour period (11.00 p.m. to 8.00 a.m. G.M.T.) customers can heat their water for day-time use and heat-up slimline storage heaters for all day warmth – all at the new low-cost economy rate. They can switch on plug-in heaters, watch tv or cook up a late night snack; if it's after 11 p.m. it's all at the

cheaper rate. Next morning, they can heat up the bathroom and kitchen and cook breakfast up to 8.00 a.m., again at the new money-saving economy rate. And there are other savings too. It all adds up to a new concept in electric living and a better buy for today's home seekers. So, before deciding which space and water heating systems best suit your development, fill in the coupon below for the full facts on the **NEW ECONOMY RATE**.

## Why you should plan to **HEAT ELECTRIC**

- Low installation cost.
- Competitive running costs.
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- Wide choice of heaters, including slimline style.
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- Better terms for cooker wiring and immersion group installation.
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I would like a representative to call and discuss the advantages of the **ECONOMY RATE** for new houses/apartments I am planning to build.

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ADDRESS \_\_\_\_\_

TELEPHONE NO. (for appointment) \_\_\_\_\_

All replies to: **Marketing Department, E.S.B.,  
Lower Fitzwilliam Street, Dublin 2.**

**ESB**

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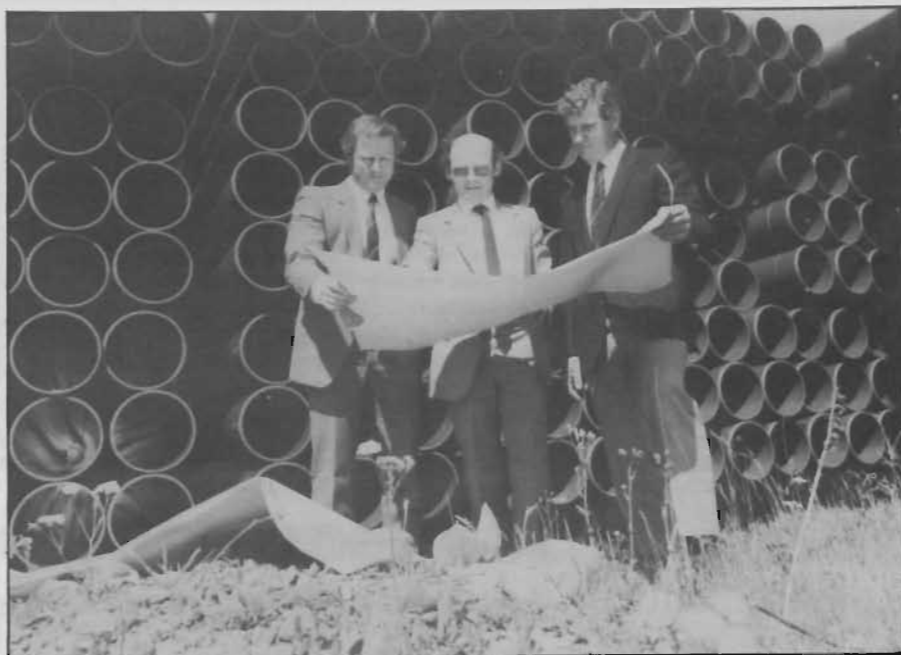
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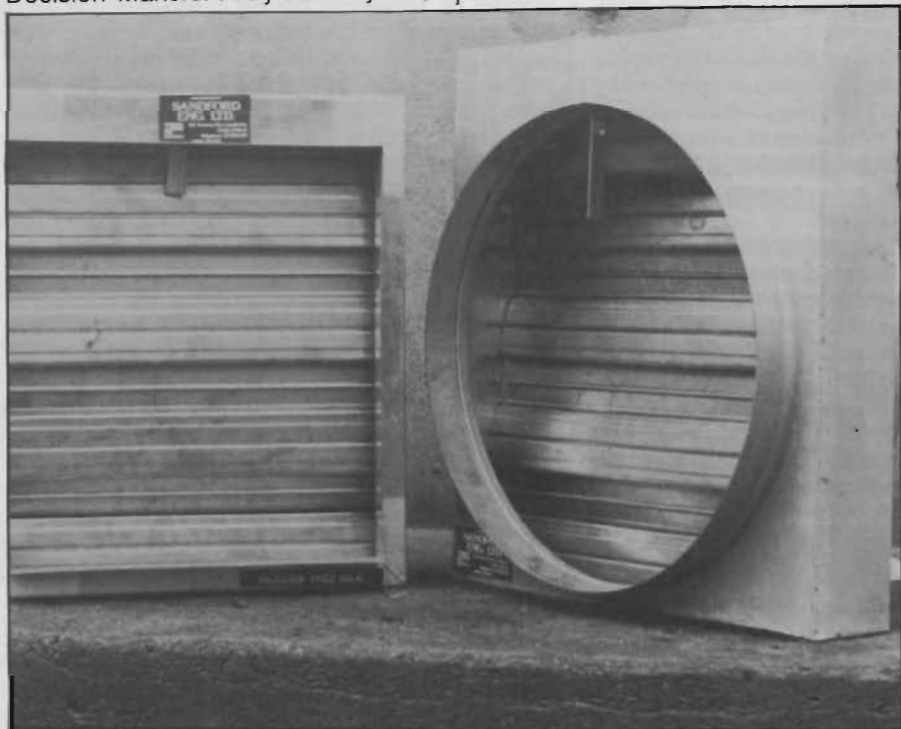


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# IRISH H&V NEWS

IRELAND'S BUILDING SERVICES MAGAZINE

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## Finheat Signed Up by Radialax

*Finheat, the Dublin-based H and V equipment suppliers, have signed an exclusive distribution contract for the sale of Radialax fans in the Republic. The company will carry stocks of all Radialax direct-drive fan products including axial fans, centrifugal fans, duct fans, tube fans, and roof units. Finheat will reveal the full range to their customers at the forthcoming IhVex '85 Exhibition next April. Meanwhile requests for further information should be directed to Tim O'Flaherty or Michael Higgins at Dublin: 728288. Just recently Finheat has produced a new company binder including full-colour profiles on the firm itself and detailing the many product ranges for which they have exclusive distribution rights. • Picture shows Finheat Chairman Tim O'Flaherty signing the agreement with Radialax Managing Director Steve Batchelor flanked by Finheat directors Michael Higgins and Brian Maguire.*



## New Safety Requirements

BOB REES, Standards Division, IIRS is still awaiting any last-minute comments or suggestions on the proposed Draft Safety Requirements for Domestic Solid-Fueled Appliances (except open fires).

Apart from some slight rewording, the Draft has already been provisionally approved by the Irish manufacturers of these appliances and it is hoped that it will be published in due course as a non-compulsory Irish Standard.

An important point is that the Specification required the manufacturer to furnish a very comprehensive set of installation and operating instructions (Section 7). How reasonable this requirement is and indeed how useful it would be in practice is something that needs further debating.

## Johnson Controls Celebrate 100th Anniversary

ONE HUNDRED years ago a new concept in energy comfort and conservation was born from the inventive genius of Professor Warren Johnson, founder of Johnson Controls — represented here in Ireland by Manotherm — which, in 1985, celebrate its 100th anniversary.

In the 1880s Warren Johnson, a professor of natural science at a Wisconsin college, got tired of a janitor disrupting his class to see if the temperature was too high or too low. This frustration led him to invent the first all-electric thermostat which he patented in 1883 and a draft regulator which automatically opened and closed the dampers.

Intrigued by the possibilities of his new control devices, Pro-

fessor Johnson gave up teaching to devote himself to his invention and a new business venture. In 1885, Johnson and a group of Milwaukee investors incorporated the Johnson Electric Service Company, now Johnson Controls, to provide systems for automatic temperature regulation based on the Professor's inventions.

Johnson was a prolific inventor and delved into many areas in addition to control devices. These included storage batteries, steam and gas-powered automobiles and telegraph communication.

By the early 1900s, automatic temperature control systems were installed in schools, hospitals, office buildings, public buildings, hotels, factories and other lead-

ing structures of the day.

As the company grew, it focused on expanding and improving temperature control systems. A network of branch sales and service offices was established around the world.

In the 1960s the company expanded its marketing and manufacturing facilities by acquiring a number of companies and creating new divisions including Controls Products (formerly Penn Controls); Systems Engineering & Construction; Engineered Piping Systems (formerly Associated Piping and Engineering.); and International Inc. divisions.

In 1978, Johnson Controls doubled in size through the merger with Glob-Union, Inc., also a Milwaukee-based company, which was founded in 1911 to manufacture electric storage batteries for street cars and street lighting. During the 1920s, Glob-Union began to make automotive batteries and since became the world's largest manufacturers.

In 1982 Johnson Controls took over the European Control products division of ITT and was able to expand its product line and manufacturing facilities in Europe. Johnson Controls now has European manufacturing plants in The Netherlands, West Germany, the United Kingdom and Italy.

Through 100 years of effort by Johnson Controls people, the company has become a leader in control products, building automation, automotive batteries, industrial process instrumentation and piping systems. Today over 20,000 employees work in 31 manufacturing facilities and 200 sales and services offices worldwide.

## P & H SERVICES COLLAPSE

• Continued from front cover

bottom up in an expanding market? Was it due to bad management, or was it due to very narrow profit margins which are called for when working for the Gas Company?

If it's the latter then is it fair that in the push by the Gas Company to obtain increased gas consumption is it at the expense of the small man? Agreed, the small man has the choice of accepting or refusing work from the Gas Company — but, if he accepts, then what happens to creditors and employees if his company collapses?

Another question needing an answer is: is the marketing plan for the Gas Company a

tor folds it is almost certain that there are dissatisfied consumers due to the non-completion of installations. While encouraging the contractors to take lower margins on installations in return for higher volume is a reasonable argument, it is feasible that the Gas Company's own operations are not as efficient as they should and, as a result, cause a cash flow problem for the contractor resulting ultimately in failure.

Not all companies' plans are perfect. The marketing plan for the Gas Company is not perfect nor does it deliberately set to cause problems for the small contractor. However, it should be re-examined to ensure that it causes no future problems. It is not only in their own interest

but also in their consumers' interest.

To achieve their targets in the domestic heating market they need the assistance and co-operation of the small contractor and the distributors of heating equipment. Failure of one has a ripple affect on the other and is unhelpful. We have no doubt that these problems are only teething problems. We have no doubt that Dublin Gas will achieve their target and so ensure their survival. Their survival can be to the benefit of all, to industrialists, to consumers, to distributors and to the small contractor.

However, if some elements of their plan need re-appraisal, they should not be above recognising the fact.

# Be our guest...

**30th ASME International  
Gas Turbine Conference and Exhibit**

**March 18-21, 1985**

**Albert Thomas Convention Center  
Houston, Texas USA**

## **GAS TURBINE DIVISION**

**The American Society of  
Mechanical Engineers**

**COMPLIMENTARY  
PASS**

More than 300 refereed technical papers will be published and presented in 79 sessions at the 1985 ASME International Gas Turbine Conference in Houston. In addition, the ASME Gas Turbine Division will host the largest domestic exhibition of gas turbine engines and auxiliary equipment in its history, with more than 170 exhibiting organizations anticipated.

Free admission to the Exhibit Hall is included in the Conference registration fee. However, if you and your colleagues would like to visit the exhibits only, be our guests. Clip this complimentary pass and present it at the Exhibit Registration Desk at the Albert Thomas Convention Center (March 18-21) for free admission. If additional free passes are needed, contact the International Gas Turbine Center in Atlanta, Georgia, USA.

### EXHIBIT HOURS:

Monday	March 18	8:30 am - 5:30 pm
Tuesday	March 19	8:30 am - 5:30 pm
Wednesday	March 20	8:30 am - 5:30 pm
Thursday	March 21	8:30 am - 2:00 pm

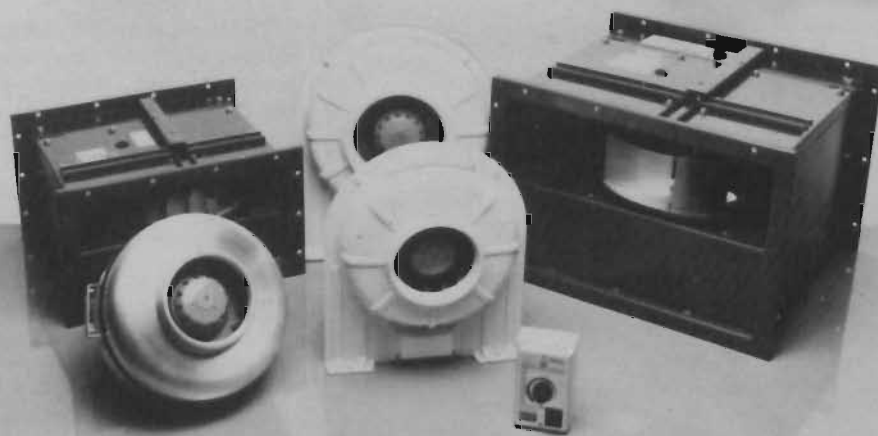
### **30th ASME International Gas Turbine Conference and Exhibit**

**March 18-21, 1985**

**Albert Thomas Convention Center  
Houston, Texas USA**



International Gas Turbine Center  
4250 Perimeter Park South, #108  
Atlanta, Georgia 30341 USA  
Telephone: (404) 451-1905  
Telex: 707340 IGTC ATL



## THE FAST-FIT FANS

**E**uroflow in-line centrifugal duct fans – powered by the world beating ZA external rotor motor and presented in the smallest case possible they are ready for connection to any ducting or flexible hose system in minutes.

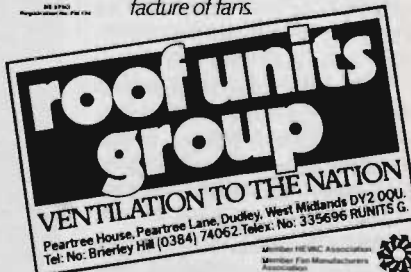
This powerful breed in "in-line" fans gives quiet, effortless and vibration free performance against resistance.

The important feature of full speed control allows the user to select precise performance in situ and the comprehensive range of supporting control gear can monitor varying conditions of pressure, temperature, humidity etc. to automatically provide constant or varying conditions as required.

Performance ranges from 100 cfm to 5000 cfm operating up to 1.5 ins WG.

Euroflow in-line duct fans designed, manufactured and tested to the highest standards and available from a nationwide network of stockists. Send for a leaflet today.

Roof Units Group is a BSI registered firm complying with BS5750 the standard of quality control for design, engineering and manufacture of fans.





## Draft Specification for Domestic Taps

FOLLOWING PUBLICATION of the "Draft Specification — Traditional Style Domestic Water Taps and Stop Cocks" last September the industry responded with comments and suggestions, all of which were taken into account when the IIRS was compiling the amending Draft which is now going forward for finalisation.

Consequently, anyone with further suggestions or comments should contact the Institute immediately as the end of this month will mark the final cut-off point.

The intention of the Draft is to have a traditional construction specification and a performance specification. Taps constructed according to the construction specification may

not necessarily meet the requirements of the performance specification and vice versa.

However, this does not mean that one contradicts the other. Rather, it gives manufacturers the opportunity to make taps to either specification, while giving the user the reassurance that his taps will be either durable or easily repairable, whichever he deems most important.

## Open Day at Walker Air Conditioning



• Pictured at one of the highly-successful open days at Walker Air Conditioning prior to Christmas were Pat Purcell, Purcell Refrigeration; Gerry Ross, Walker Air Conditioning; Pat Morrissey, Stephen Morrissey & Son; Sean Walsh, Cork Refrigeration Services and Seamus Cooney, Cool-Ride Refrigeration.

## Notice to Sanitary Fixtures Importers

IMPORTED SANITARY fixtures are once again in the news following the recent Regulations made by the Minister for Industry, Trade, Commerce and Tourism entitled European Communities (Surveillance of Sanitary Fixtures) Regulations, 1985.

The effect of the Regulations is to monitor the importation of sanitary fixtures originating in Czechoslovakia, the goods in question being classified as Customs Tariff Codes 6910-102; 104; 106; and 108.

Under the provisions of the new Regulations importation into the State is subject to the production by the importer of an import document issued by the Minister concerned.

While the initial Regulations are intended to facilitate surveillance on fixtures originating in Czechoslovakia, one wonders if other countries will be incorporated in further issues.

## WILO TAKES OVER POMPES SALMSON

WILO WERKS GmbH & Company, one of the most important manufacturers of pumps for building services in Europe, has acquired the majority share capital of the French pump factory, SEH Pompes Salmson which, until now, has been part of the French nationalised Thomson group. By this step the two companies in their three manufacturing plants at Dortmund (West Germany), Limerick (Ireland) and Laval (France), will achieve a combined yearly production rate of nearly two million pumps representing a significant part of the total market in Europe.

Pompes Salmson, market leader in France of heating circulating pumps, employ a staff of 650 and had an annual turnover in 1983 of FFR 302 million (£25 million Stg). In comparison the Dortmund-based privately-owned company, Wilo, reached a total annual turn-over of DM 210

million (£57 million Stg), while employing slightly less than 900 people.

Wilo comments that due to the economic recession during the last few years the European heating pump market has been largely affected by a relentless price war with correspondingly adverse effects on earnings. At the same time there has been a heavy need for investment in research and development to match product design to changing market requirements mainly dictated by the energy crisis.

Wilo believes that by taking over the majority shareholding in Pompes Salmson, the future developments of both companies will be better safeguarded. To this purpose it is intended to introduce and expand co-operation in the fields of research and development, purchasing and standardisation of components for both companies' production programme.

## UK Piping Company Opens in Dublin

ROBERT FRAZER Industrial are major suppliers in the UK to gas, water, and civil engineering industries of pipe related products, and have been supplying some sectors of the Irish market for seven years from their Manchester branch.

In January they opened a sales and distribution depot of 6000 sq ft at Unit 9, Hibernian Industrial Estate, Greenhills Road, Tallaght, Co Dublin, (Tel: 527522), to supply their products from stock.

Frazers have a proud record of product innovation, having literally searched the world for good, well-engineered products to solve pipe related problems. The product range includes a host of specialised pipe fittings, leakage control, and pipe protection products, many of which have never been stocked in Ireland before in any great depth. Well-known brand names include Viking Johnson, Victaulic, Uniflange, Plyage, and many others.

The staff are expertly trained to deal with any pipe-related problems and include Bill Mitcheson as General Manager, and Eamon O'Daly as Assistant Manager. A trade counter service is also available.

## Grundfos Road Show

FOLLOWING THE very successful trade showing in a Dublin Hotel just before Christmas last, the Grundfos Road Show has now taken to the country.

First port of call for the new year was Jury's Hotel, Cork on 6 February while the next stop-over will be in Limerick at the Limerick Inn on 20 February.

All members of the trade are welcome to come along and see the latest offering from Grundfos and discuss any points of interest with company executives.

Opening times are 1am to 7pm. Refreshments will also be served.



# State Spend £1.3m on Energy Research in '84

STATE SPENDING on energy research in 1984 is estimated at IR£1.3 million, according to a new directory recently published. Details of the 88 energy research projects are contained in the *Inventory of Energy Research, Development and Demonstration Inventory 1984*, compiled by the National Board for Science and Technology.

Projects range from research into conservation and the efficient use of energy to transport studies on natural gas fuelled engines.

An Foras Taluntais (AFT) and the Electricity Supply Board (ESB) continue to fund and carry out the largest number of energy research projects, accounting between them for approximately one third of all state-funded energy R & D projects.

Schemes undertaken by AFT include a study of energy requirements for industrial meat cooking; a review of the energy situation in relation to glasshouse crop production; and a study to determine the role of private forestry on highly productive forest sites in agriculturally disadvantaged areas.

The ESB is investigating a number of projects including wind energy test and demonstration; the use of solar panels for swimming pool water heating; and boiler combustion and operation improvement by using fuel additives.

The third level colleges also

make a substantial contribution to energy research in Ireland. Projects at TCD, UCC, UCD NIHE Limerick, Cork RTC, Athlone RTC, and Sligo RTC are listed in the inventory.

However, State spending on energy R & D declined by IR£1.8 million between 1983 and 1984, the largest annual decline in four years. One reason for the decrease was the completion of several large projects in 1983. The decline has been evenly distributed among all sectors of energy research. The decrease in investment reflects a decline in energy research internationally. Nonetheless, there has been a slight increase in funding certain areas relating to new sources of energy, in particular, the potential of small-scale hydro.

• Copies of the Report are available from Loraine Fegan, National Board for Science and Technology, Shelbourne House, Shelbourne Road, Dublin 4, (Tel. 683311). Price £2.50.

## APPOINTMENT

IN A BID to expand their overseas markets, the Leeds-based Bray Lactroheat Ltd, manufacturers of industrial electric heating elements and systems, have appointed N & P Electrical Ltd, electrical engineers, of Shankill, County Dublin as their exclusive agent for the full range of BL products in the Republic of Ireland.



• Attending the reception to announce the sponsorship by Shires Ireland Ltd and Joseph Kelly & Sons Ltd of the 1985 Leinster Open Badminton Championships which was played on 1/2 February at The Badminton Centre, Whitehall Road, Terenure were: J Brendan Whooley, Managing Director, Shires Ireland; Brian Carson, President, The Knights Badminton Club; and Robert Taylor, Irish Men's International.

# SMC APPOINTS HALL PYKES SALES

THE WORLD'S largest pneumatics organisation and international brand leaders — SMC, now represented in Ireland as SMC Pneumatics (UK) Ltd — has appointed Hall Pykes Sales Ltd of Dublin, as stockholding distributors. This will considerably shorten delivery times for SMC's growing number of customers in Ireland.

Although SMC has been established only relatively recently in the British Isles, the organisation is known and noted world-wide for its innovation in many aspects of pneumatic engineering. With a strong emphasis on research and development, the company maintains a policy of con-

tinuous improvement in its wide range of products.

SMC carefully studies industrial needs so that products which function more expediently than existing components, can be evolved to ensure increased productivity. For instance, the organisation has long been aware of the cost and space-saving advantages of smaller components and has recently introduced products which are much more compact than their competitive counterparts. The range of SMC miniaturised components is now so extensive that a booklet, "Pneumatics in Miniature", has been published to describe them.

# IDHE to Elect President

FOLLOWING ON a resolution put to the last AGM of the IDHE held before Christmas, a decision to elect an Institute President has been taken.

A sub-committee was appointed from the Executive Committee following on the AGM to deal with the finalisation of the Irish IDHE Constitution and to extend and/or change the existing Terms of Reference while incorporating the new position of President.

Each member will have the opportunity to aspire to the position of Institute President and it is planned that each year from 1985 onwards the result

of the Presidential election will be announced at the AGM. However, for this term a special ballot is required.

Following the receipt of valid nominations, ballot papers from the election of President will shortly be issued to each paid up member. Completed ballot papers should be returned within 10 working days of receipt of same. The results of the ballot will be notified to all members and the official inauguration of the new President will take place at the bi-ennial convention during May 1985.

## Dampguard from Unitherm

• Continued from front cover

every 24 hours in high-humidity conditions. An automatic control activates the dehumidifier when humidity levels rise above the required level.

Each unit is about the size of a personal computer and comes in an attractive mahogany or teak casing, and will service an area of some 2,000 sq ft.

• Right: Dampguard — the Irish-made dehumidifier from Unitherm.





## Re-Established School at Lennox Industries

AS PART of their Dealer Support Programme, Lennox Industries announce the return of Brian Stowbridge as Application and Training Manager. His experience goes back to the early 60's when, as Education and Training Manager with Lennox, he pioneered warm air training courses. Brian held this position 15 years while Lennox grew to be one of the leading names in air conditioning and heating.

He left in 1979 and has served as Projects and Design Manager with a contracting company.

Lennox have re-established their Training School at their manufacturing facility in Basingstoke and will shortly announce details of new design, application, and servicing courses for consultants and dealers. Courses will also be arranged at local venues as required.



• Brian Stowbridge, Application & Training Manager, Lennox.

## LRAG Goes International

THE FOURTH London Refrigeration & Air Conditioning Show — Wembley, February 19-21 — is fast growing into an International event. Many prominent companies are exhibiting either in their own right or are joining with UK distributors on their stands.

Having increased the available stand space over the 1983 show with the addition of the Pedway Suite, Sales Manager Gordon Moorey reports a sell-out with the remaining few contracts being finalised.

There are 85 exhibitors at the show, representing between them over 200 companies from around the world. Among them

are — Dean & Wood (London) Ltd; Marstair; HRP Sales; Copeland GmbH; Prestcold; Carrier/Carlyle; Grasso (Holland); Refco (Switzerland/Holland); Derby (Denmark); Danfoss (Denmark); APV Products; Dunham-Bush and United Termofrost/Maneurop (France).

Energy management systems made possible by the advances in solid state circuitry are expected to provide the focus for the 1985 show. Visitor attendance, judging from current ticket requests, is expected to comfortably exceed that of the '84 figure of 4000.

## HDG-HERZ GOES TO THOMPSON

BRIAN THOMPSON Ltd are pleased to announce that they have been appointed as Irish distributors for HDG-Herz solid fuel and multifuel boilers. Widely acclaimed and accepted throughout the UK and Europe, they are available in the range 20 KW to 200 KW and will happily burn all fuels including timber, peat, wood shavings and combustible rubbish!

The boiler operates at efficiencies in excess of 90% due to its unique design and "smoke-eating" capability and is the perfect solution for a user who wants to burn solid fuels but needs the security of an automatic oil or gas back-up.

Full details and prices are available from Brian Thompson Ltd, 72 Central Avenue, Bangor (Tel 0247-465486).

### SANBRA FYFFE APPOINTMENTS

AS A RESULT of Brendan Byrne's retirement (see H&V December '84) the following appointments have been made at Sanbra Fyffe: Des Byrne as Field Sales Manager and Pat Coyne as Customer Service Manager.

No other changes are anticipated in the immediate future and the following staff will continue to handle customers requirements:

Representatives: Gordon Swinburn — Northern Area; John Kelly — Southern Area; Ian Gallahar — Technical.

Sales Office: Tom Lawlor — Sales Office Administrator; and Anne D'Orey — Order Clerk.

Cork customers will still be called on by Des Byrne.



## IRELAND'S BUILDING AND MECHANICAL SERVICES SHOW

Royal Dublin Society, Industries Hall,

**APRIL 16 - 18, 1985**

(12 noon to 8 pm daily)

For full details contact Joe Warren at

Irish Trade & Technical Exhibitions (ITTEX) Ltd. 5/7 Main Street, Blackrock, Co. Dublin Tel. 885001 Telex 92258

For details circle 4



# Save them spending pounds where they should be spending pennies

Implementation of the new water bye-laws concerning urinals that are flushed automatically can reduce water wastage dramatically. And, where the supply is metered, installing the correct control valve saves a fortune on water bills too.

The bye-laws refer both to the frequency of flushing and to periods within which no flushing should occur.

So it's good to know that there's one outstandingly effective method of dealing with their requirements: Cistermiser, the only flush-control device awarded the certificate of the British Board of Agrément.

Cistermiser control valves do not merely conform to the stipulations laid down by the bye-laws. They exceed them. For, even within the defined limits, *they operate only in direct proportion to the actual usage of the facilities*. Money won't, literally, be pouring down the drain when the building is empty or being used by just a few people.

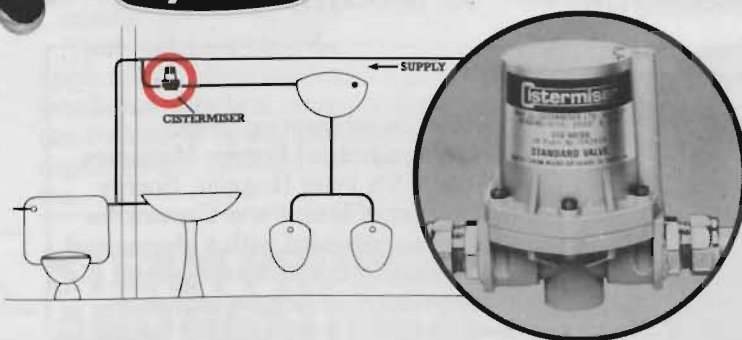
The result is correspondingly greater savings in the cost of metered water supplies. In fact, a single Cistermiser can save up to 100,000 gallons annually, so paying for itself over and over again. Which explains why one famous hotel group is reckoning on a startling £145,000 reduction per year in its metered water charges.

Cistermiser. The least costly yet most rewarding way of putting an end to that wasteful financial outflow.

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Fyffe**

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Telephone: 379291.  
Telex: 25325.

Conex Sanbra Ltd., Glenville  
Industrial Estate, Belfast.  
BT37 0TU. Tel: Whiteabbey 67317.



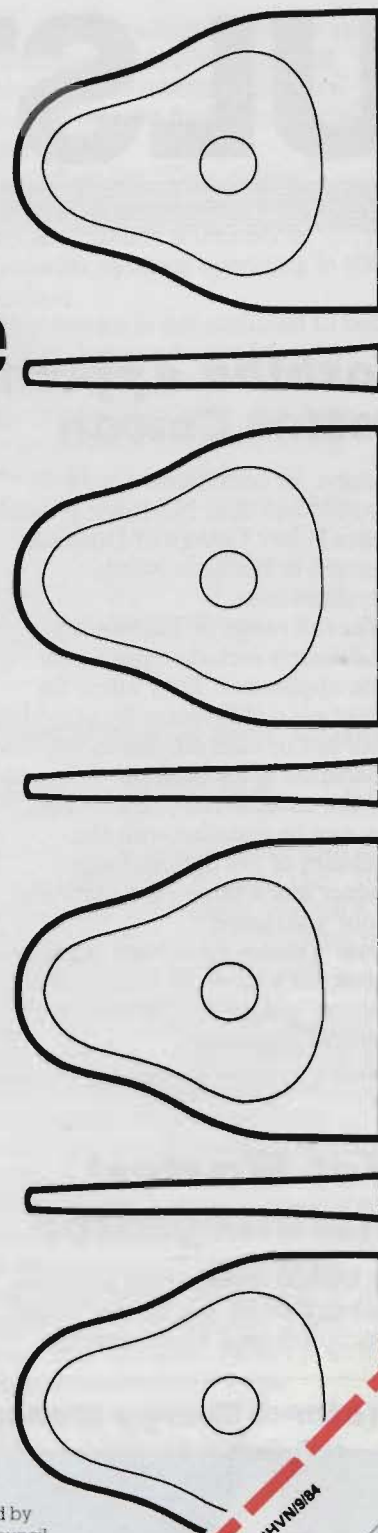
Cistermiser is:  
non-electric, so a plumber  
can install it in minutes.  
Maintenance free. Approved by  
the former National Water Council  
and now recommended by Water Authorities.  
The only flush-control device awarded  
the certificate of the British  
Board of Agrément.  
Approved by the Dublin Corporation.

## Cistermiser

Efficient flushing at a fraction of the cost

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# ULSTER NEWS

## Toshiba Appoint Potter Cowan

Toshiba air conditioners have appointed as their Northern Ireland agents Potter Cowan of Duncrue Crescent in Belfast's North Foreshore area.

The full range of Toshiba air conditioners include mobile and static appliances. They allow for instant air conditioning by providing either hot or cool air. Their application is for both the domestic and the commercial markets and they can be installed with the minimum of disruption. Each product has a three year parts and labour guarantee.

Potter Cowan have been trading in Belfast for almost 30 years and their agencies include several ranges of electrical appliances.



• Robert Watson, Potter Cowan's sales representative responsible for the Toshiba range, examining one of the appliances.

## Wet Wastes' Distintegrator

The Upflow model of the Muncher disintegrator for wet wastes' solids reduction is used where ultrafine

particle size is demanded.

In the established Series A range of wet Munchers, the liquid stream passes once through the disintegrators bank of slowly inward rotating toothed cutters, with their characteristic shearing action and reduction in solids particle size.

The new Upflow Muncher models incorporate offset inlet and outlet flanges with internal baffles to direct the flow three times through the cutter bank. This produces a smaller particle size which is often necessary for cost effective processing and

treatment of many materials. The particle size is governed by the actual machine design.

The Upflow model has already been successfully used with aerobic sludge pasteurisation plant. Other waste and effluent applications include sludge digester feed and centrifugal sludge dewatering as well as the production of wet foodstuffs and fish meal protein extraction.

Detailed proposals, quotations and brochures from the exclusive agents — PWS Ireland Ltd, Newry, Tel: 0693-4511.

## Natural Energy Managers of the Year Award



• From left: D Noble, Department of Economic Development at the presentation to P Huggins, Dale Farm, of the Area Energy Manager of the Year Award by J Noble, NIFES, (back) F R McBride, Chairman of the Energy Managers Group.

At the recent meeting of the Northern Ireland Energy Managers Group, Mr Peter Huggins, Energy Manager of Dale Farm Creameries Ltd was presented with a cheque and commemorative tankard to mark his achievement of being a runner up and regional winner in the Natural Energy Managers of the Year competition.

The competition was sponsored by Powrmatic Ltd and NIFES. The Northern Area Manager of NIFES, Mr John Noble, presented the award in company with Mr F R McBride NI Chairman and Mr D Noble of the Energy Efficiency Office.

Following the presentation Mr John Noble presented a paper "Energy Monitoring & Targeting".



## Thermal Technology Expand Product Range

As a leading supplier of air to air energy recovery equipment, Thermal Technology are expanding their product range to include a packaged heat recovery ventilation unit.

The ventilation packages are sized to satisfy a need for low volume applications that are not normally handled by present air handling unit manufacturers. They can handle up to 0.6 m<sup>3</sup>/s of supply and exhaust air and there are five sizes available.

The three smaller units use in-line duct fans and the two larger units small centrifugal fans to ensure smooth quiet operation.

Each package consists of a double-skinned insulated casing containing a standard Thermal Technology "ST" Aluminium Plate Recuperator, for air to air heat recovery, a supply and exhaust air fan. The recuperator extracts energy from the exhaust air and transfers it to the incoming supply air. Heat transfer efficiencies vary between about 50% to 70%.

A number of optional extras are available to the standard unit and include supply and exhaust air filters, electric heat batteries, integral bypass (for summer running to prevent heat transfer), weather-proof casings, and variable speed fan controls.

These units are ideal for applications which require ventilation with heat recovery and can be used in banks, conference rooms, hotels, offices, club rooms, etc.



• Donald Megahey inspecting Baltimore cooling equipment on a recent visit to the Belgian factory following P & D Macfarlanes appointment as Baltimore Aircoil agents.

Full details from G W Monson & Sons Ltd, 18 Ballyblack Road, Newtownards, Co Down BT22 2AP (Tel: Newtownards (0247) 812350); Dublin 777368.

## Macawber Appoint P & D McFarlane

P & D Macfarlane Ltd of Ridgeway Street, Belfast, have acquired a very useful adjunct to their activities with their appointment to represent Macawber Eng Ltd of Doncaster in Northern Ireland. Macawber's have

been in the forefront of the advance in pneumatic handling and their activities have revolutionised the handling of solid fuel in industrial boiler plants.

Based on the "Denseveyor" system of dense phase conveying, there are already a number of Macawber systems operating in the Province.

The system is not confined to coal handling but can be used for the transfer of all types of materials including feeding stuffs, fertilisers etc. In addition to the conveying systems Macawber have also developed their own "tipping bin" system for the discharge of materials into the denseveyor system thus eliminating major civil works on underground hoppers too.

## Seminar on Use of Asbestos

Mr Gordon Burnison, Chairman of the Asbestos Committee of the Health & Safety Agency chaired a seminar in the Culloden Hotel on the new law related to the use and application of asbestos.

Speakers included Mr C Stewart of the Industrial Science Division of DED, Dr Hall, Senior Advisor of the Employment Medical Advisory Service and Mr. Edmonson of the Health & Safety Inspectorate.

The full implications of the use of asbestos were explained and many of the misconceptions shown to be based on a misuse of the facts. Properly used and applied it was shown that asbestos did not pose a threat to health but it was emphasised that operatives both applying, removing and working with asbestos must take all the proper precautions. Failure to do so placed them at risk.

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# Terrain. Less waste, more speed.

Faster assembly with fewer fittings and less wastage. That's what Terrain plastics soil, waste and trap systems offer.

With Terrain, you can build a complete soil stack with as few as six fittings. Saving you time and effort. While our prefabricated stacks go up even faster.

Thanks to Terrain solvent weld, joints are clean and strong. They stay that way, too.

Terrain also saves on breakages with easy-stacking plain ended pipes. And you can use the off cuts.

So if you're looking for soil and waste systems that give you all the

advantages, choose ours. They're every bit as good as Terrain rainwater and underground systems.

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**Dublin 11.**

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**SOIL WASTE RAINWATER UNDERGROUND**  
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# Drainage Design in Hospitals

In view of the significant number of medical projects currently underway, we publish here a synopsis of consultant Rolf Payne's paper on "Drainage Design: Above and Below Ground Usage in Hospitals and Other Buildings. The paper was presented at Marley Plumbing's one-day seminar late last year but the comments and advice given are now more relevant than ever.

In drainage, one has to define first of all the objective of the drainage system: it is to move effluent or waste products from within a building to some point of final discharge, safely, quickly and conveniently, without causing risk of infection and without causing undue noise or harassment in any way.

Effluents change considerably, and in hospital work there are some most unusual effluents from pharmacies and chemistry laboratories, including high temperature wastes/large tissues and macerated waste in all forms which will cause chaos if they start blocking drainage systems.

One becomes slightly neurotic about blockage of the drainage system and the backing up of effluent into clinical areas. Floor drains should not be allowed in operating theatres or indeed in any clinical areas. They are open septic tanks, and who wants to provide a septic tank full of toxic waste in the middle of a clinical area? The risk of infection is considerable — and tends to get hushed up in the UK a lot.

The old hospitals that were built in the UK, (many of them designed by Florence Nightingale) used external drainage and had a minimum of sanitary requirements, so we didn't have problems of internal cleaning of drains. When Florence Nightingale first went out to the Crimea with nurses she was asked what she wanted in a hospital, and her first priority was a good, adequate drainage system and the second was pure, fresh water. Buildings can cope for quite a long time without electricity or central heating, but you can't survive for long, certainly in this modern day, without an adequate drainage system. Hospitals

a lot of internal drainage, because the requirement of the drainage system in a hospital is to serve the medical needs. In other words you don't tell medical clients where they can have their sanitary work for the convenience of the drainage designer. The medical planners say we need appliances in these positions to do certain functions, and then you try to service them. It makes life a little more difficult. Traditionally we used offsets, knuckle bends and right angle junctions, and inevitably got blockages developing at these bends. I became involved in research with the UK Department of Health to find out the problems in 25 hospitals, the results of which are published in Digest No. 81, "Hospital Sanitary Services: Design and Maintenance Problems". I am sure you have had exactly the same problems in Ireland, because I know they exist in most of Europe.

The problem was that designs changed due to medical sanitary requirements, which

were themselves changing rapidly. For example, papier mache bedpans went into macerator units which pushed the resultant porridge into the drainage system, and papier mache porridge was something which traditional design techniques and traditional materials were not able to cope with.

We also experienced a tremendous lowering of standards in the quality of workmanship and the quality of material. For example, we used a cast-iron pipe on phase one of Greenwich District Hospital, only to discover that blockage after blockage would develop. We found that the roughness of the bore was a critical factor in the problems, coupled with badly made joints — in other words, joints that would not relate to engineering tolerances. With cast fittings which were very rough in the bore, right angled junctions and knuckle bends we were getting this problem all the way along the line, so we looked for alternative material. On phase one

where we have the cast-iron, the engineer in charge was getting what he considered an acceptable number of blockages, which was one every ten days.

On phase two we put in most of it in new PVC and we had no problems at all; we didn't have a single blockage. We then developed the hospital drainage design system, and the Oxford Regional Health Authority have standardised on PVC for all their hospitals. You can do offsets and bends with PVC that you could not do with cast-iron.

At Milton Keynes Hospital we used the orange underground pipe above ground, because in fact it was slightly cheaper on the job. We also used bends and offsets to manoeuvre our way through the fabric of the building, because we couldn't have truly vertical stacks from the height of the building but had to cope within the structure.

One of the biggest problems was quality of workmanship and quality of control on the



• Wavin Pipes won the contract to supply piping for the Regional Water Scheme at Tinahealy, Co. Wicklow. Pictured studying the plans for the scheme with the first consignment of piping in the background area (l to r): Leo Tolan, Wavin, Martin Murphy, Contracts Manager, McInerney Civil Engineering Ltd, and Larry Carr, Sales/Marketing Director, Wavin.



site. There was a tremendous amount of builder's rubbish getting into the drainage system, and in our specification now, we insist upon proper adequate stoppering on every open ended drain. Stuffing a plastic bag into the gully to prevent rubbish going in will lead to the plastic bag slowly working its way down into the drainage system and causing a blockage — one very difficult to remove, and who wants to have to remove it when the hospital is operational? So it is very important that the builder controls the rubbish that might get into the drains, firstly by making sure the areas are clean and also providing the correct stoppers for the system.

In very sensitive areas within a hospital you must be able to guarantee that you don't have effluent backing up into clinical areas. You can control the builder's rubbish and you can ensure that he cleans the system out adequately before you hand the contract over, but you can't stop misuse by patients and nursing staff. Nurses are lovely people, but they are totally irresponsible in certain aspects. They consider a drain to be an open dustbin that they can shove anything down at any time and hopefully it will go away. Patients, particularly geriatric and mentally sub-normal patients, like to hide things, and frequently stick them down the drainage system. We have on occasion taken dirty underwear and a lot of money out of drainage systems. Mentally sub-normal patients get pocket money and they want to look after it so they hide it, sometimes round the bend of the w.c.!

Now I am, for my sins, an instigator of the sealed drainage system. They have had it in Scotland for a long, long time, whereas in England we tend to use open channelling, or at least we used to use it. A survey carried out in 1948 indicated that the majority of problems with drain blockages occurred because of the manhole. It was either the construction, because the internal rendering used to fall off and go into the drainage system, or because effluent has a fairly low intelligence. Anything that you can flush around the bend of a w.c. should be able to go through the pipework system to the sewer, but once it is flushed round the bend of the w.c., down the stack and along the pipe, when it comes to a drain it can't expand as it is

not restricted by the bore of the pipe. Therefore objects like paper towels can actually expand in the manhole channelling and block the manhole. But if you carry the pipe through the manhole chamber it doesn't have this facility to expand and therefore you have done away with a point of blockage.

Sealed access systems do create problems themselves. One of the things that we have identified is that because of changing technology you can't

get a television camera through today's access doors if you want to inspect the condition of the drain. I believe firmly that we will have to develop an access door through which you can get a television camera because — wearing my trouble shooting cap — if there is something wrong with the drainage system I insist on it being jetted out to clean it and then put a camera up to look at it. In that way we usually can identify why the problem is occurring.

Finally, in hospital drainage

design or any design that requires manholes, one has to remember the objective of the manhole. It is stamped out in regulations: it is to allow access into the drainage system. So why put a manhole where you can park a car on it? Put them somewhere where the safety of the man working down the manhole is important. You don't want cars rocketing by him at 90 m.p.h. when the poor chap has got the manhole cover up and he is trying to stick his rods up the drain.

## Wavin — Where Quality Comes First

WHEN IT comes to pipework and drainage, one name springs automatically to mind. The name is Wavin, Ireland's leading manufacturer of PVC pipe systems.

No matter what the requirement, Wavin have the product to meet it — be it pipe systems for water, sewage, land drainage, rainwater, soil and waste, ducting or gas projects. Not only will you get the product best suited to the job in hand, but you may be certain that the product concerned has been manufactured using the most precise of standard tests and as such is of the highest quality.

It was Wavin who pioneered the use of unplasticised polyvinyl chloride (uPVC) in Ireland in the late 1950's and 1960's. Since then, Wavin has grown to become market leader and principal innovator of PVC pipe systems in the country. One only has to look at the major water schemes presently under construction in Ireland to see how successful Wavin has been in supplying and satisfying the market place. The majority of these schemes are using Wavin systems.

Schemes involving Wavin in recent times include Lough Easkey in Sligo; Tinahealy, Co. Wicklow; the Galway regional scheme; Achill and North Roscommon regional schemes; the West Clare regional water supply schemes and East Inishowen scheme.

Wavin has supplied over 40 miles of pipe along for the Lough Easkey project in County Sligo. The project itself will cost some £3.5m and is one of the largest ever local authority regional water schemes. Approximately 5 kilometres of the Wavin pipe will be laid through a bog, using

another Wavin innovation — a special 16 inch tension joint which allows pipe lengths to be assembled on site and simply laid in the bog, thus dispensing with the time, effort and cost involved in driving pre-cast concrete piles into the bog as it required with other materials.

In the West Clare schemes, Wavin are supplying over 30 miles of PVC pressure pipe ranging from 4" to 12" in diameter. They are also supplying a wide range of fittings, bends, tees, tails and adaptors, saddles etc. for the project.

All of these products are manufactured to the Department of Environment approved standards. The larger systems, from 8" upwards, are also Kitemarked — further proof of the high standards to which Wavin products are made. When it comes to quality, Wavin has an outstanding record — the company has more IIRS Certificates than any other manufacturer in Ireland and in 1983, was awarded the Irish Quality Mark.

To ensure consistently high quality products, Wavin exercise strict quality control tests at every stage of the manufacturing process. Testing is carried out by a team of skilled and experienced personnel from the moment raw materials are delivered. Inspections are continuously carried out on pipes as they are extruded.

Surface finish, both interior and exterior, is checked; wall thickness and outside diameters are carefully monitored to ensure that they come within specified tolerances and chamfers are checked to make certain that the pipe lengths will join correctly and perform satisfactorily. In addition, samples of pipe are taken from every extrusion line on every

shift and tested accordingly. A further measure of Wavin's meticulous attention to quality is that, in all its tests, the company always tests beyond any specified standard.

Wavin testing procedures include a short-term Hydrostatic Test where pipe is subjected, for a minimum of one hour, to an internal pressure of at least 3.6 to 4.2 times the maximum allowable working pressure on pipe.

Another test which Wavin conducts to check the toughness of pipe and its ability to withstand normal shock is during handling, transport and laying is the Impact Test. Here, a weight, with a steel hemispherical striking face of 12.5m radius, is dropped onto samples of pipe from a height of 2m, the weight varying with the pipe diameter.

Heat reversion and chemical tests are also carried out. In the former a sample of pipe is heated to a temperature of 150°C for a specified time and then allowed to cool to room temperature. The percentage change is then calculated and if the product is to pass the test, this change must not exceed 5%. In the latter, a pipe's resistance to acetone is tested, using standards which are tougher than even those required at national level.

Wavin also carries out long-term hydrostatic tests, the objective being to ascertain the "50 year stress" capacity of its pipe. To pass this test, the pipe must have a minimum safety factor of 2.1 after 50 years at the maximum allowable working pressure.

These are just some of the tests which go to make up Wavin's quality assurance programme for which the company has won official





Thanks to developments in Wavin pipe technology sewage is one problem that we now have well and truly under control.

Michael Weldon is one of the many Wavin technical experts who make it all possible. Who are continuously working towards better and more economical ways of improving the comforts and conveniences of day to day living. Who come up with advanced designs and innovations like the Wavin Gulley Trap and the W.A.J. (Wavin Access Junction). Which have caused a minor revolution in sewage engineering.

# To our Mr. Weldon sewage is not a dirty word.

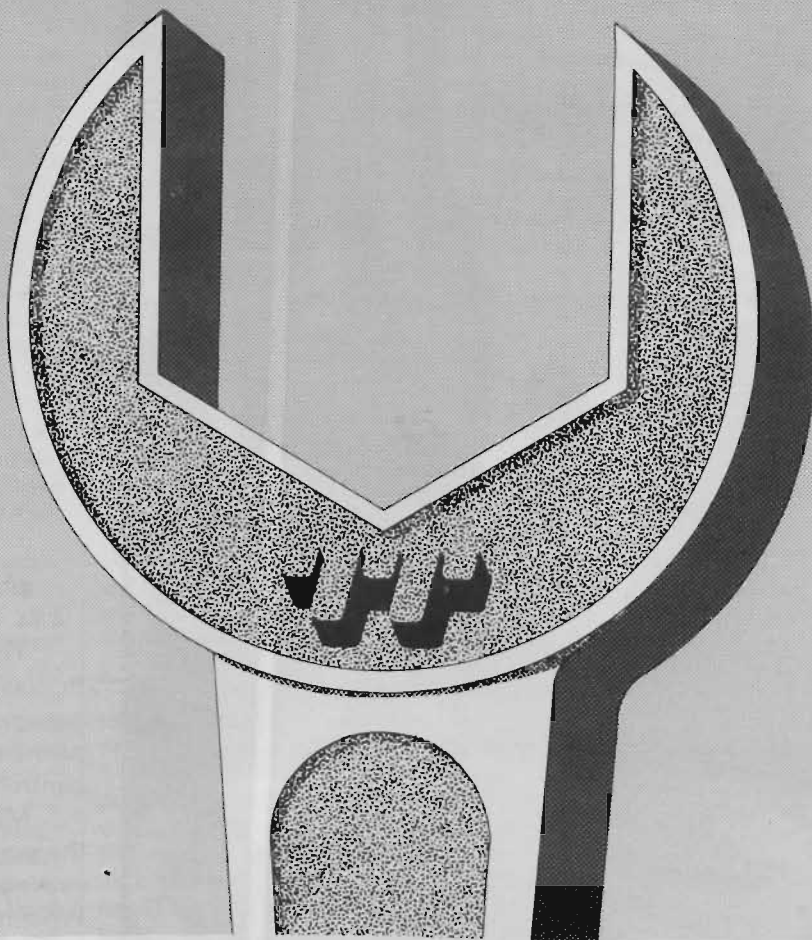
We could go on and on. About Wavin Bends, Branches, Channels, Level Invert Reducers and the like, but we're sure you'd rather we didn't get too technical. You need bear only one thing in mind: when you insist on the real thing you're not only getting Ireland's leading pipes and fittings but the expertise and back-up that only Wavin can give you.

Always insist on Wavin.

**wavin**

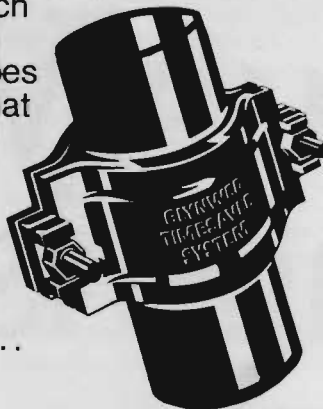
The Nation's Pipeline!





## Get it together, Easier than ever.

The Glynwed Timesaver system from Tonge and Taggart is aptly named. It's a range of cast iron pipes and connections with no sockets which has revolutionised drainage both above and below ground! The pipes are joined by a patent coupling that gives a water and air-tight joint at the twist of a spanner. And the system is ideal too for 'marriage' to existing cast iron installations. So get it together easily, quickly and safely with the Timesaver system from Tonge and Taggart... They're men of iron.



### Tonge & Taggart Ltd

Ironfounders & Engineers  
East Wall Road, Dublin 3, Ireland  
Tel. (01) 786088. Telex 30993.



A member of the TMG Group



recognition from the Quality Control Association. Being awarded the quality control mark is no mean feat — last year, only 15 firms were awarded the mark. This brings to 60, out of the 200 or so firms who have applied for the Quality Mark over the past two years, the total number that have been awarded the Quality Mark.

It can be no understatement to say that the concern and attention to product quality shown by Wavin since it was established in 1958 has been a major factor in the company's continued success. This concern is also reflected in the company's forward-looking approach to product development which results in several new products and product modifications being introduced each year.

Details from Wavin Pipes Ltd, Balbriggan, Co Dublin, (Tel: 412260).

## UPONOL DRAINAGE AND SEWERAGE SYSTEM



• Components from the Uponol drainage and sewerage system from Uponor Ltd, Bishopstown, Co Cork.

## Unidare Terrain — Catering for Every Need

UNIDARE, ONE of Ireland's largest manufacturing companies, markets Terrain plastics systems for both soil and waste and rainwater applications.

The Terrain soil, waste, traps, waste outlets and overflow systems are all designed to meet the requirements of British Standard specifications. Each system comprises a wide range of socketed fittings for use with plain ended pipe and solvent welded or seal ring joints.

A range of fittings is provided for expansion joints to accommodate thermal movements, and there are accessories for connection to other materials, such as CI, GVC and plastics below ground drainage.

The Unidare Terrain four boss branch is a neat solution for soil and waste problems that meets the toughest demands and complies with Code of Practice (BS 55762).

Terrain straight and angled connectors allow connections of waste pipes to BS 5254, BS 5255, Imperial and metric copper sizes up to 2" (50.8mm). The branch is available in all-socketed or spigot/socket configurations and the sockets give a choice of solvent weld or seal ring jointing.

The Terrain half-round or square uPVC rainwater systems are designed for efficient disposal of surface water from all low and high rise domestic buildings. The system comprises a wide range of spigot/socket fittings for use with plain ended pipe, and socketed gutter fittings for use with plain gutters.

In addition, there is a range of fittings for connection to other materials. Both square and half-round rainwater systems are designed for on-site use.

Terrain also manufacture a variety of roof and balcony outlets in uPVC.

Additionally, the company has recently introduced a range of Terrain WC pan manifold connections.

Traditionally WC pans have been manufactured in either a 'P' mode (with a 14° fall) or an 'S' mode. New pans to BS 5503, however, are manufactured in the 'P' mode but with a horizontal outlet. Terrain have produced six pan connectors specifically for BS 5503 WC pans.

For further information contact Unidare Ltd, Jamestown Road, Finglas, Dublin 13. (Tel: 771801).

## MARRIAGE OF TRADITIONAL CRAFT AND NEW TECHNOLOGY

TO GET THE best measure of the strength of Tonge & Taggart, one only has to look at the decimation of the entire foundry industry, both here and overseas, over the last ten years. At one time there were over 100 concerns in the UK but this has now been whittled down to 10 with worse still to come. Here in Ireland the situation has been similar (though naturally on a smaller scale).

Throughout, Tonge & Taggart has survived primarily because of the vision and foresight of an enlightened management who realised that the key to survival lay in a marriage of the traditional craftsmanship and new technology. The company hasn't been slow to adopt new techniques and methods of production but at the same time has insisted on retaining the skill element involved from the craft point of view.

Herein lies the key to Tonge & Taggart's success — the ability to offer a total package in relation to water, sewage and gas distribution systems. There are four key elements in any job

— the spec, the pattern, the moulding and casting, and the finishing. Each of these areas is under the total control of the company. . . modern practice is to import patterns but Tonge & Taggart are now unusual in that they have their own pattern makers and machine shop, in addition to a jobbing foundry.

The combined advantage of these factors is flexibility which cannot be matched by the importation of standard pipework and fittings. No job is so straightforward as not to require unusual non-standard additions and it is here that Tonge & Taggart come into their own. They get involved in a contract as early as the design stage and very often consult with the designer in charge to surmount major problems and thereby make the scheme more cost-effective.

In addition to pipes and fittings, Tonge & Taggart can produce virtually any type of casting, examples being the 6ft diameter pipe for the ESB; architectural bollards; lamp standards; railings; post boxes;



even horse troughs (current most unusual "special").

The company has over 100 years experience in the industry and the 167 strong workforce includes a great number who have 30 years plus service. Even Managing Director Nick Hodges has nearly 40 years in Tonge & Taggart, having worked his way up through the ranks to his current position.

In conjunction with this degree of experience and know-how, Tonge & Taggart are all the time striving to incorporate new methods of production into the process. Plans are currently well advanced for the total replacement of existing plant though it is emphasised that the new innovative practices will not render the craft itself obsolete.

This expansion is in anticipation of an expanding home market and also increased sales on the export side. Tonge & Taggart are making great strides in the Middle East at present with a high degree of success being achieved in Bahrain through their locally-appointed agent.

For details of these and any other developments on either marketing strategy or product capability contact Tonge & Taggart Ltd, East Wall Road, Dublin 3, (Tel: 786088); Telex: 30993.

# Comprehensive Range from Marley Flooring and Plumbing

A COMPREHENSIVE range of PVC pipes and fittings suitable for soil, waste and underground drainage are made by Marley Extrusions (Ireland) Ltd and marketed by Marley Flooring & Plumbing of Lucan, Co Dublin.

Soil pipes and fittings — 110 mm diameter soil pipes with integral "O" ring sockets — formed in the extrusions factory by an advanced technique — have been in ever increasing demand since their introduction some time ago.

The well-known and extensive range of Marley soil fittings includes some unique patented fittings as follows: Marley adjustable bend; Marley collar boss and Marley multi-branch.

More recently automatic air admittance valves called "Durgo" valves have been added to this range. The simple but ingenious mechanism of the Durgo valve causes it to respond in a sensitive manner to

fluctuating air pressures in a sanitary pipework system.

The units are designed to reduce the number of ventilating pipes and hence roof penetrations in domestic, hospital and commercial sanitary plumbing systems without affecting drainage performance and with the additional benefit of cost savings.

Waste pipes and waste traps — Marley PVC waste pipes and fittings are available in three sizes — 36 mm (1 1/4"); 42 mm (1 1/2") and 55 mm (2"). The excellent range of fittings includes swept tees, large radius bends and access caps. High temperature CPVC pipes are available for situations where temperatures above 70°C are likely to be encountered.

The Marley PVC overflow pipe system, which consists of 22 mm diameter pipes and fittings is another very popular system.

An excellent range of small diameter waste traps are

offered. Most of these traps incorporate a 76 mm water seal, an essential requirement for single stack installations. Anti-siphon deepseal traps are also important items in this range, as are running traps and special washing machine traps.

Marley underground drainage systems — Marley offer a comprehensive range of fittings in 110 mm (4"), 160 mm (6") and 250 mm (9") sizes for use in underground drainage. Pipes and fittings are made both to Local Government specifications and to British Standards.

For situations where traditional drainage manholes would not be desirable or acceptable, a "Sealed Access" drainage system is offered.

The Marley Inspection Chamber system has been developed to provide an alternative choice to sealed access manholes in shallow drainage runs.

Following the success of their Irish-designed and manufactured Universal gully trap, Marley Plumbing introduced sewer pipes with integral 'O' ring sockets at one end. By eliminating the need for a separate coupler, the Marley pipe is quicker and easier to install and therefore more economical in use.

Marley offer a comprehensive range of injection moulded fittings in their (9") 250 mm diameter drainage system; 250 mm diameter is the preferred size in Local Government Specification LG 77 for 9" nominal diameter pipes.

Literature on all of the above systems is available from Marley Flooring & Plumbing Ltd, Lucan, Co Dublin, (Tel: 280691).

## NEXT MONTH

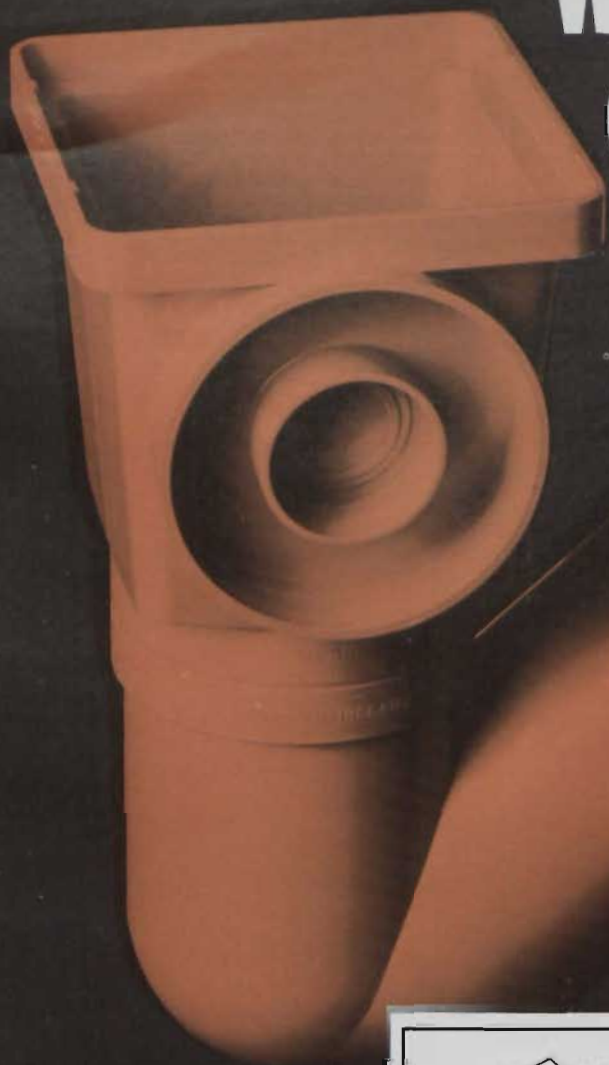
In our next issue we will be reviewing latest developments in the following areas of the industry — Pumps and Circulators; Storage Tanks and Pressure Vessels; Water and Waste Treatment.



• Marley ogee-shaped PVC Classic guttering in white and Marley soil and waste pipes, including downpipes cast at Superquinn's new Blackrock Centre.



# We bury some of our best ideas.

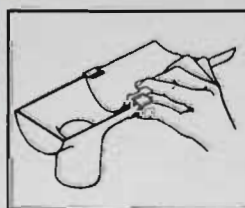


Our R & D operation at Lucan is responsible for the invention of a growing range of high-quality Marley PVC Building Products.

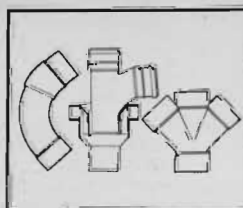
The Marley Universal Gully, for example: suits all gully jobs, is fully adjustable for height to site level. Boss upstands allow simple connection from any direction for waste, rainwater or drainage.

Just one of many Irish-manufactured Marley products finding new markets and new users at home and abroad.

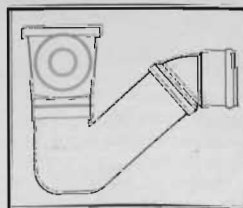
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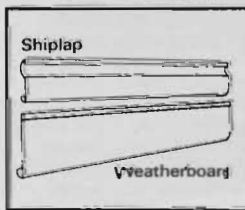
MARLEY RAINWATER SYSTEMS



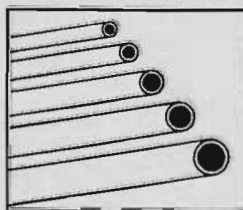
MARLEY SOIL AND WASTE SYSTEMS



MARLEY UNIVERSAL GULLY



MARLEY EXTERNAL CLADDINGS



MARLEY DUCTING



MARLEY POLYTHENE TUBING

# Marley Plumbing



# Myson in Ireland

Ask the question, "What is Myson's involvement in Ireland?" and many may answer Scanglo International — their highly successful radiator valve manufacturing plant in Newcastle West, Co Limerick.

This is only a part of the answer. Myson, through its marketing arm Myson Ireland Ltd, based in Dublin, have also supplied the full range of Myson domestic central heating products to the trade since the Group's initial involvement in Ireland in 1974. Today Myson enjoys the happy position of market leadership with many of these products.

The ongoing process of research and development and engineering design carried out in-house at Scanglo has resulted in many improvements to the product range in recent years, giving Myson both a range of which they can justly be proud and also dramatically improving efficiency and profitability.

With its Swiss design mechanism, embodying a diaphragm capsule filled with heat sensitive gas, the Myson TRV has been established by various standards authorities throughout Europe as the fastest acting available on the market. Time constant

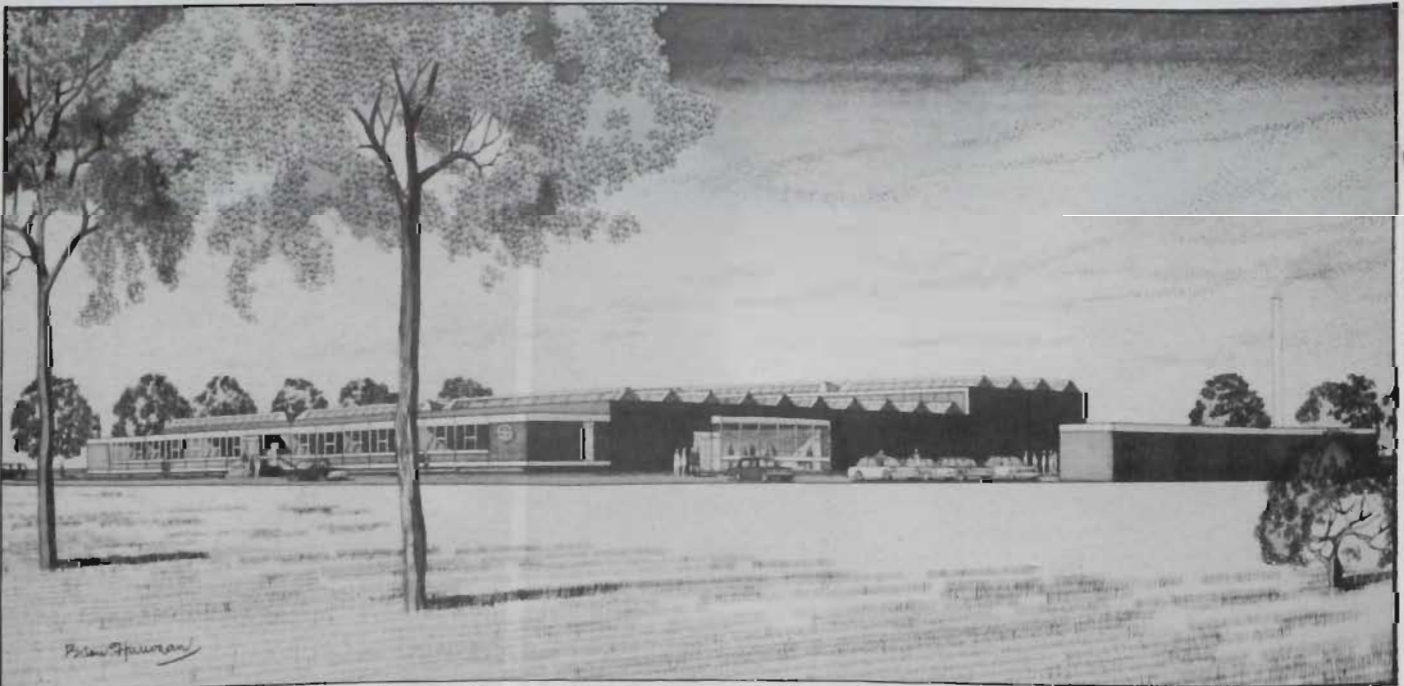
warehouse) of what is arguably the most extensive range of domestic central heating equipment available. The full Myson range is also subject to continuous improvement and development.

Myson are well known for their wide range of panel and convector radiators. Where an alternative heat emitter is required Myson can offer a comprehensive range of fan convectors. Applicable to most wet central heating systems, all fan convectors provide economical, flexible and variable heat outputs, together with unique space saving benefits. Fan convectors occupy up to a sixth of the space used by an

Typical of the Myson range in this area are the Unit Three pump and the Economist wall mounted gas boiler.

The Unit Three's two speeds plus flow regulator, enabling the flow of water to be precisely controlled to match the new generation of boilers now available as well as satisfying the needs of the traditional solid fuel back boiler, makes it one of the most reliable and versatile pumps on the market.

Since the start of the decade market trends have veered towards energy-efficient, light-weight, low-water content wall-mounted gas boilers. Myson Economist achieves



Through its 46,000 sq ft modern factory at Newcastle West, Myson continues to show its commitment to the future of both the HVAC industry and the Irish economy with its unrivalled training programme. This produces well-qualified design engineers, toolmakers, electricians, fitters and turners.

The Scanglo factory, established in 1969, has continued to develop with ongoing investment by Myson. It has a 100 strong work-force generating some £3m of exports to the UK per annum.

A comprehensive range of valves, including TRV's, manual radiator valves, (Matchmate II), heavyweight radiator valves, (Fullflow), isolating valves (Minuet and Pump Isolating) and the latest addition of Matchmaster in the BS domestic valve sector are produced at Scanglo, where all stages of production are carried out including hot brass forging, auto multi, spindle machining, electroplating and toolmaking.

In 1984 £0.5 million was invested in high technology plant in the shape of a robot controlled stamping press. Plant for a high volume fully-automated valve body machining operation will shortly be installed.

for the Myson product is ten minutes compared to twenty five from those of its competitors. A Myson TRV is also available for connection to iron pipework. The Matchmate valve has undergone a series of quality improvements in recent years including the introduction of 8 and 10mm versions. The highly popular FF valve also continues in favour with the Irish specifier, with its adaptability making it suitable for both screwed iron and copper compression fittings. This valve will be offered with a fully polished finish to compete further in the quality market.

Matchmaster, successfully launched early in 1984, is an attractive, quality valve with outstanding performance and reliability characteristics and is the result of careful research into exact specifier requirements.

However, Myson in Ireland is more extensive than Scanglo. In a market which declined in total in 1984 by some 5%, Myson Ireland achieved a sales growth of 15% in the same year. This improved market share was gained by selling quality products at a competitive price.

Myson are long established as a trusted supplier to the merchant trade (through its Dublin

equivalent output radiator.

Two examples of Myson's ingenuity in design are the Kick-space and the Vertical II fan convectors. The Kick-space, under 4" high, can be mounted into the unused 4.5" of space in the kitchen unit plinth or kickboard. The Vertical II, incorporates many new components. A completely new, slow running fan design gives high output at slow speeds. This equals long life and a very low operating noise level making this an ideal product for use in bedrooms as well as more general applications. As both of these products are suitable for recessed application both have a strong potential for light commercial applications where space is at a premium.

An essential element of a luxury fitted bathroom is the installation of a Myson towel warmer. Nothing spoils the luxury effect quite so easily as piles of damp towels. As market leaders Myson have many years expertise in this field and offer a wide model choice in chrome, brass and gold plate to complement the most luxurious decor. Electric models are also available.

Obviously, in the current economic climate reliability and energy conservation are priorities of the purchase decision-maker.

80% efficiency heat into water at maximum capacity. In addition, Myson have spent many years developing Economist so that it is highly efficient at all levels of load.

Another unique feature is the Economist's copper tinned heat exchanger, which is unmatched in the industry for its combination of efficiency, lightness and durability. Also available for propane, Economist is a worthy sister product for the long established Velaire oil fired.

Other products include a comprehensive range of sealed system equipment, industrial space heaters, and electrostatic filters.

With its multiproduct portfolio the future for Myson in Ireland looks bright. Although new central heating installations have fallen by 7,000 installations per annum in the last seven years, Sean Hanratty, Managing Director, Scanglo International and Myson Ireland, is optimistic about Myson's continued success in 1985 and says "Because of our total commitment to quality and value for money we will continue to increase our market share on a profitable basis".



et al.: Irish H & V News  
**MYSON**

# Leading Manufacturer of Domestic Heating Products



## Better by design

**Myson (Ireland) Ltd**, Parkmore Industrial Estate, Longmile Road, Dublin 12.  
Telephone: Dublin 509075 Telex: 24210.



## NEW PRODUCTS

### Locate that Gas Leak

MAESTER ELECTRONICS announce the release of the new Trac-a-leak "sight and sound" gas leak detector.

The unit quickly detects minute traces of natural/town gas, LPG, butane and propane, allowing the operative to accurately locate and make good gas leaks. On the detection of a combustible gas, Trac-a-leak gives a visual warning the LED moving through green, yellow to red. An audible warning is also emitted from the unit the pitch rising with the increasing gas concentration.

A battery state indicator is incorporated in the Trac-a-leak, visually alerting the operative when the battery pack is reaching a level too low to power the highly responsive sensor.

Trac-a-leak is competitively priced and available from stockists throughout Ireland.

(Circle 45 for details).

### Vaillant Fan-Assisted Combi Boiler

VAILLANT HAVE introduced a fan-assisted version of their well-known Combi boiler. Called the COMBI RSF, the new appliance has a room-sealed combustion chamber, smaller diameter flue pipe and terminal (of only 3.8in), increased efficiency and flow rate, and is available from



• Trac-a-leak, available from stockists throughout the country.

Gastech.

Possibly the most important feature of the new design is the greater flexibility offered in siting the appliance. For example, the flue is able to pass through a thicker than usual wall, and the appliance itself may be located up to about 3 m (10 ft) from the terminal. Also, unlike many other fan-assisted boilers, because of the special design, the flue can be set horizontally at any angle to the boiler through a full 360°.

Other new features include full sequence ignition obviating a standing pilot which saves gas, and modulating control down as low as about 35% of the full load to suit the demand.

The new boiler is available in two sizes — 24 and 18kW (81,900 and 61,500 Btu/hr). It is anticipated that the larger output size will prove more popular, and this will be available ex-stock. Body dimensions, identical for both sizes, are: height 855mm (33.7in); width 480mm (18.9in); depth (mounted on wall) 370mm (14.5in).

(Circle 46 for details).

### Multikwik Flexible WC Connectors

MARLEY FLOORING & Plumbing Ltd have been appointed distributors for the Multikwik range of flexible WC pan connectors manufactured by Phetco (England) Ltd of Southampton.

Multikwik connectors are moulded from white EVA (ethylene vinyl acetate) copolymer. The body is manufactured by injection moulding and the sealing rings by compression moulding from a synthetic rubber compound.

No sockets are required and the connectors are easy to install for new or remedial work. No jointing compound is required and the connector spigot extends well into pipe to

reduce possible leaks on damaged pipes. Watertight seals are created by multiple plastic and rubber flanges being compressed against the soil pipe and pan or spigot.

Should the wide range of standard lengths not suit, Multikwik connectors can be easily trimmed and connectors can be linked together using a simple Multilink sleeve unit. The Multikwik size No. 4 can be used to bridge distances between WC pan spigot and soil pipe from 9mm up to 64mm without an extension piece and is particularly useful when fitting a close-coupled suite.

(Circle 47 for details).

### A Boiler for All Fuels

PROMISING TO ease the burden of escalating fuel costs for both domestic and commercial users is the new HDG Euromodel multi-fuel boiler, distributed throughout Ireland by Brian Thompson Ltd, Bangor, Co Down.

Dependence upon a single fuel source is a thing of the past, say the distributors, as this boiler will burn not only conventional fuels such as coal, peat, wood etc, but also virtually any combustible waste material, packing, wood off-cuts, dry food waste and even bones! — and all with efficiencies approaching 90%. This is achieved by virtue of the patented combustion 'smoke-eating' system incorporating a triple pass heat exchanger which double-burns the fuel.

Fitted with an auxiliary burner firing either oil or gas, the multifuel boiler will provide ignition, transfer automatically to solid fuel and then switch back to oil/gas should the solid fuel run out before the owner has had time to re-stock the large hopper.

As well as the multi-fuel model, a solid fuel only version is available at a very competitive price. A conversion kit is available for this model to convert to multi-fuel status at a later stage, if so desired.

Although on the European market for many years, these latest models are the result of three years of extensive research and field trials. The solid fuel version is available in



Part of the Multikwik range of flexible WC connectors.



the range 17-43 KW (65,000 - 140,000 Btu/hr) and the multifuel version in the range 17 - 180 KW (65,000 - 610,000 Btu/hr).

(Circle 41 for details).

## Wira Cuts Water Charges

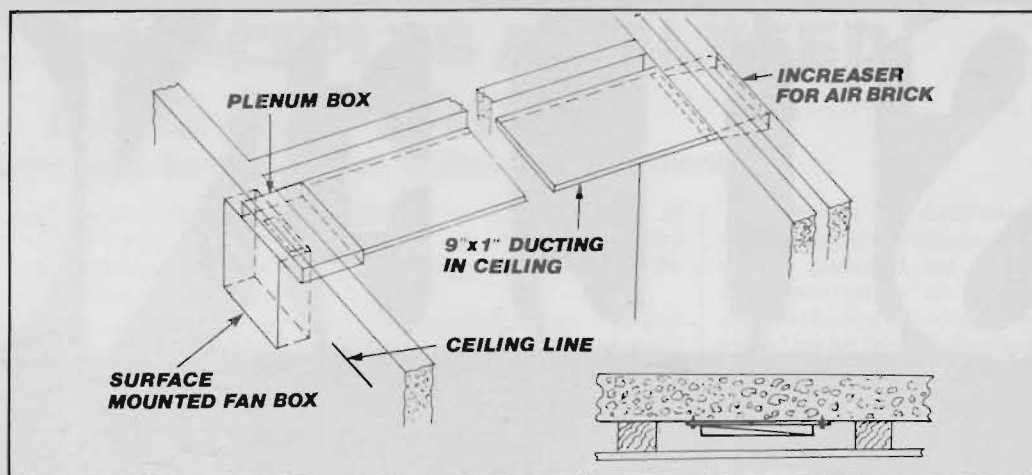
**DRAMATIC REDUCTIONS** in trade effluent charges are promised from a new system being developed by Wira, the Leeds-based technical and research centre.

The process can reduce the pollution load of any industrial effluent, providing savings of up to 90 per cent of charges made by water authorities. In addition, it is cheap, continuous, requires little maintenance and produces valuable by-products.

The process consists of an enclosed, pressurised, anaerobic digester in which anaerobes putrify the effluent (in this case raw wool scouring liquor) reducing complex compounds to simpler ones (carbon, hydrogen, carbon dioxide and methane). After the effluent has resided in the digester for up to twenty days, its toxicity is greatly reduced, and can then be drawn off into settling tanks.

After settling, the treated effluent is discharged to the sewers in the normal way, for additional treatment by water authorities before entering the river system. The residue, a biomass sludge, is fit for use on the land as fertiliser. A further by-product, methane, is produced in quantities that enable it to be economically harnessed for space heating or electricity generation.

(Circle 43 for details).



## A Boring New Idea

**THE NEW** Unibit single-fluted high-speed step drill bit can save time and money in every conceivable application, from electrical to automotive to industrial, according to distributors Pace Marketing.

The precision, multi-stepped design makes it possible to drill up to 13 different hole sizes — in metal, plastic or wood — without changing bits. And without the need for center punching!

Yet, a single Unibit multi-stepped drill costs far less than a conventional set of drill bits providing the same range of hole diameters.

(Circle 42 for details).

## Silavent 'Flatduct' Discharge Ducting

**IN MANY** new construction schemes for living, accom-

modation space for services is confined, and ventilation for internal toilets and bathrooms is difficult to arrange without expensive fire-shutters everywhere.

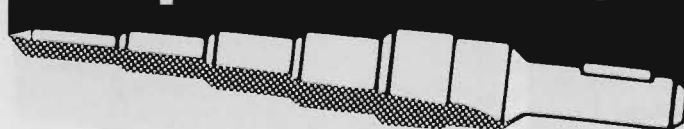
Now Silavent have announced 'Flatduct' — a slim air discharge ducting for their Mayfair bathroom/toilet fan, which will easily run between the concrete floor of one storey and the plasterboard ceiling of the room below; and, because it does not pass through other compartments, no fire shutters are needed.

Made of galvanised sheet steel, the Silavent 'Flatduct' measures only 9" x 1" (230 x 25mm) and has a lip on each side which can be drilled to take fixing screws — brackets are not needed.

A full line of 'Flatduct' accessories is available, including plenum boxes, airbricks, connectors, couplings, and right-angle bends. Included in the Silavent package is a free service for the design of the system.

(Circle 44 for details).

## Step Drill. A Great Idea!



## Can Be Sharpened

The UNIBIT Step Drill saves money because one bit can replace an entire set of costly twist drill bits. It also saves time because it drills quickly and eliminates the need to continually change drill bits for different size holes.

UNIBIT from Petersen Mfg. Co. U.S.A. makers of world famous VISE-GRIP® tools.

# Unibit®

## Pace Marketing Limited

1 Belvedere Court, Dublin 1. Telephone, 749010.



• Unibit won't "walk" or "skid" like drill bits.  
Published by ARROW@TU Dublin, 1985

For details circle 12

IHVN, February 1985



# SILENCE

## The biggest noise in air conditioning comes in with a whisper

Introducing Carrier's stylish new — whisper quiet — 53 series split room air conditioners. Elegant and reliable, they are engineered for commercial applications where discreet comfort and unobtrusive elegance are of paramount importance.

Select from models in the conventional air conditioning mode, or in heat pump configuration with confidence, knowing you will be providing ultra quiet, year round, comfort conditioning. And since one of several option packs includes accessories to make the 53 series operate on conventional l.p.h.w., these are truly versatile units.



The fan coils, with their new hi-tech electronic controls, can be floor, wall or ceiling mounted. And on the dual split model, two fan coil units are served by just one outdoor twin compressor sets. That's cost effective versatility.

So to hear about the Carrier 53 series — whisper quiet — splits, don't stay silent, call your local Carrier distributor.



leader in air conditioning  
and heating technology

### WALKER AIR CONDITIONING

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Belfast, BT16 0JH.

Tel: Dundonald 5234 Telex: 747681

GLASGOW: Washington Road, Unit 10B,  
Abbotsinch Industrial Estate, Paisley, PA3 4ET.

Tel: 041 887 0551 Telex: 779406





# BASIC PRINCIPLES ANALYSED AND EXPLAINED

By Gerry Ross, Sales Manager, Walker Air Conditioning

TO MANY people the term air conditioning implies air cooling only. There is a degree of justification in that view, since the term was unknown prior to the application of mechanical refrigeration to that duty.

Air conditioning has a broad meaning. It consists of heating the air if it is too cold; cooling it if it is too warm; adding moisture to it if it is too dry or, alternatively, drying it if it is too moist; moving it if it is still in any required quantity and at any required velocity; or even adding substances to it which it does not contain, thus making the air suitable in the highest degree, not only for breathing, but as a constant environment.

Air conditioning may be defined as the science of simultaneously controlling factors effecting both the physical and chemical conditions of the atmosphere within the enclosure.

The factors can be summarised as follows: Temperature; Humidity; Air motion; Distribution; Dust particles; Bacteria; Odours; Toxic gases; and Ionization.

The use of ionization and control of toxic gases is seldom used in air conditioning and therefore cannot be considered as a viable function of a true air conditioning system which can be stated in the following manner.

(1) To heat/cool the air and thus raise/lower the dry bulb temperature;

(2) To increase/decrease the moisture content of the air (dehumidification);

(3) To provide proper air motion;

(4) To provide proper distribution of that air;

(5) To provide sufficient outside air for ventilation purposes in accordance with good practice;

(6) To remove dust particles and other solids which usually remain suspended in the air (filtration).

The relative importance of the functions as detailed above vary considerably according to the locality. For example - heating is not of much importance in

the Tropics and there is no great demand for air conditioning in Iceland. However, in the Temperate Zone, we understand the relative importance of the various requirements of a complete year round air conditioning system and therefore attempt to obtain these potentials that we feel are a necessity.

Heating — Obviously, the first and most important step in air conditioning is heating the air when it is too cold. The term "heating" is understandable to everyone since, in the cooler climates, heat must be supplied for comfort by a hot water system, steam plant or warm air plant.

Cooling — Air that is too warm is as distinctly uncomfortable to the human body as air that is too cold. Cooling is as vital in summer air conditioning as heating is in winter. Cooling is accomplished by means of promoting the circulation of air which has been chilled by passing it over coils which are cooled with cold water or mechanical refrigeration. Air can also be cooled by passing it through a cold water spray or over ice.

Humidification — This means the addition of moisture to the warm air in the building. Air, like a sponge can hold a certain amount of moisture. When the air has absorbed all the moisture it can hold it can be said to be saturated. When the air contains less than the maximum amount of moisture it can hold, at a given condition, the quantity of moisture present in the air is expressed as the percentage of the maximum amount the air can hold at that condition and this percentage is known as the relative humidity.

The ability of air to absorb moisture depends upon its temperature. The warmer air becomes, the more moisture can be absorbed before it reaches saturation, or 100% relative humidity. Likewise, air that is warmed without having moisture suffers a lower relative humidity. If, for example, fresh air was to be taken in at, say, 0°C and 90% RH and sensibly

heated to a temperature of 25°C, its resulting relative humidity would be in the order of 16%.

Dehumidification — This function involves the removal of moisture from the indoor air by cooling the air to a temperature where it cannot continue to hold all the moisture present in it at the higher temperature. An example of this is a glass of iced water in a warm room. Condensation will immediately appear on the outside of the glass, since the air film next to the glass surface has been cooled to a temperature where it can no longer hold all the moisture present in it at the high temperature. This process is called dehumidification.

As the temperature of the glass rises, the condensation will disappear from the glass, the increased glass temperature permits the air temperature surrounding the glass to rise and absorb the moisture from the glass surface, this process is called humidification. Dehumidification may also be done chemically by passing the air through a chemical solution or bed of hygroscopic crystals which absorb moisture.

This method however is rarely used for human comfort air conditioning and is generally used in chemical/pharmaceutical areas where low RH is required.

Filtration — This function means the removal of dust and soot, odours, pollen, bacteria and other particles in the air, by passing it through a filter or a water spray. Normally the filtration section of an air conditioning system is made up of three sections, (a) pre-filter, (b) medium efficiency filters, and (c) high efficiency or absolute filters.

The pre filters arrest the larger particles of dust and the air then travels through the medium efficiency filters which are generally of the bag filter type, which arrest particles sizes, down to approximately five microns. The final filtration is then carried out by an absolute filter which can have an efficiency of up to 99.997% on BS 3828.

Air motion and distribution — All the requirements previously discussed are dependent upon proper air motion and distribution in order to provide a true air conditioning system. No matter what sort of control you have on the air and its filtration, it will be very ineffective if the distribution of the air was so arranged that it produced drafty conditions in one area and stagnant areas in another. Air motion and distribution include the following design problems.

(1) Distribution of the conditioned air from the air conditioning apparatus to the areas to be conditioned;

(2) Velocity of the conditioned air as it moves through the duct or pipes of the distribution system into the various conditioned areas;

(3) Movement of the air within the room;

(4) Equalisation of the air motion in the conditioned space so that still or stagnant air in one area and drafts in another will be prevented.

Systems — An air conditioning system is a system or arrangement of equipment used to achieve and maintain desired conditions of temperature RH and cleanliness of the air in a given space. This section deals with air conditioning systems designed around the above features.

Packaged air conditioning units — Packaged or unit air conditioning means the use of units that have been pre-designed and engineered by a manufacturer to specific standards incorporating a direct expansion refrigeration system. In this context packaged air conditioning is only concerned with comfort conditioning and therefore some latitude can be tolerated with the various conditions. This applies particularly to the question of relative humidity. The operation of packaged air conditioning systems for comfort conditioning is generally as follows.

(1) air from the conditioned space is drawn into the equipment and mixed with a proportion of fresh air as required;



(2) the mixed air passes through the filters which remove particles of dust and dirt;

(3) the air then passes through a cooling coil which (a) cools the air and (b) dehumidifies or extracts moisture from it;

(4) if the system is to be used for heating as well as cooling a heater battery or hot water coil is fitted;

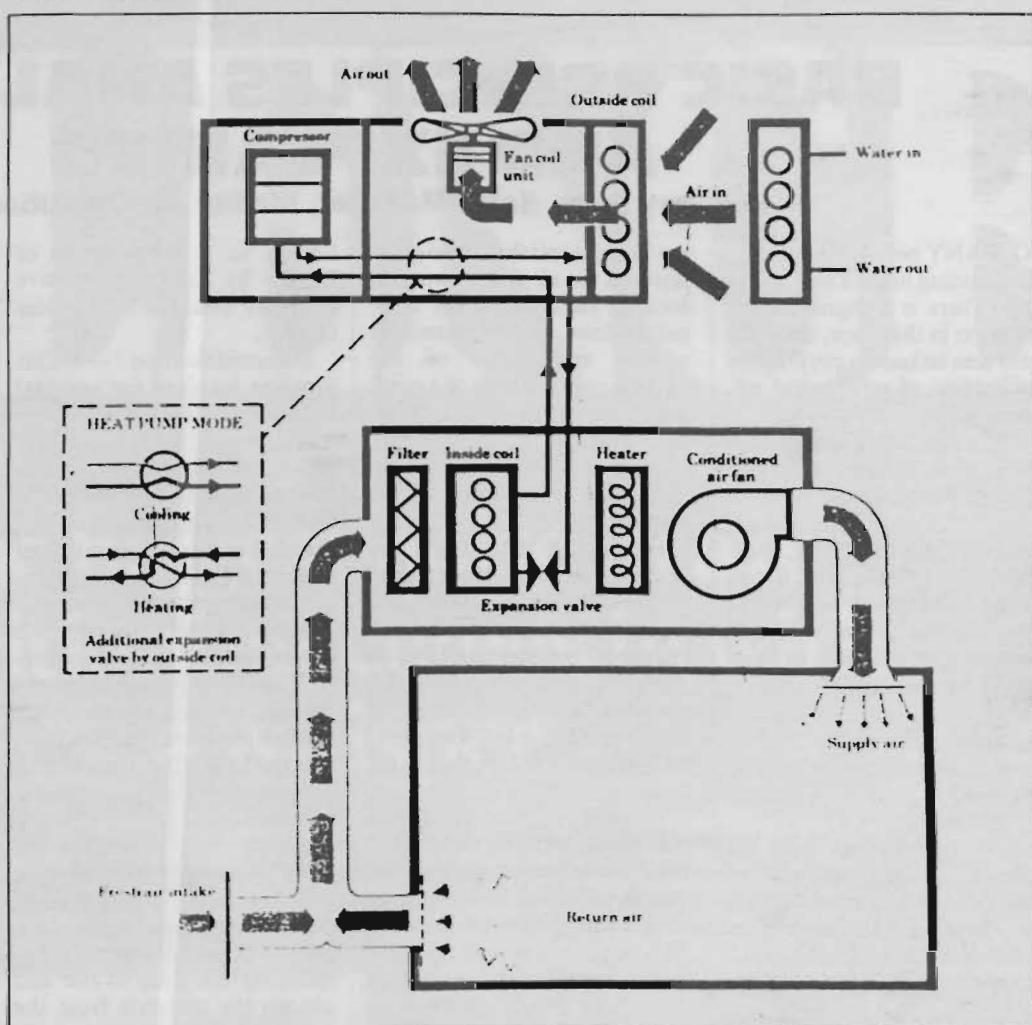
(5) finally the air passes through the fan and is returned to the conditioned space.

The parts of a packaged air conditioning unit fall into two main categories, (a) air handling components and (b) refrigeration equipment. Often the two are combined in one cabinet to form a truly packaged air conditioning unit but more flexibility can be obtained by splitting the two functions completely.

**Air handling section** — The air handling system mixes and filters the air passing through a cooling coil, possibly heats it and circulates it round the conditioned space by means of a fan. Mixing of fresh air and return air is carried out for reason of economy, since the return air will generally be closer to the required supply air condition than fresh air which is only normally required for ventilation and so demands less treatment. The mixing is effected by dampers in the fresh and return air streams, which are either fixed or automatically controlled.

The filter material will allow the air to pass through but to retain any particles of dust etc. The arrestance of the dirt and efficiencies of the filters depends on the quality of materials utilised. Special filters can also be added to the unit and incorporate within the ducting system if required. These include automatic roll filters to reduce filter maintenance, electrostatic filters to remove smoke pollen or other very fine dust and charcoal activated filters to remove all odours and gases.

The cooling coil is a heat exchanger. Cold fluids circulate through the tubes through which the air is passed, the air is cooled and where dehumidification is also required the cooling is taken to a point below the dew point of the air so that condensation takes place, the moisture is then drained off. Heating is effected



a coil or, as in most small systems, direct action from an electric heater battery. The latter is generally split up into two, three or four stages depending on size to facilitate control and also power loading on the incoming mains.

Circulation of the air through the system is effected by means of a fan. This is generally of the centrifugal type since it is best suited to the volume of pressures generally encountered and is not too noisy.

**Refrigeration System** — In the packaged air conditioning system the fluid circulating in the cooling coil is the refrigerant, the coil is known as an evaporator and the system is known as a direct expansion system. After passing through the evaporator, the refrigerant enters the compressor whose function it is to circulate and compress the refrigerant vapour, it then passes to the condenser whose function it is to remove the heat picked up from the air in the evaporator and that added by the compressor. Direct expansion refrigeration systems can use either air cooled or water cooled condensers.

It should be noted that the amount of water used in water cooled condensers is very large, and great care must be exercised before selecting water cooled condensers. A cooling tower could be used but these are not economical with refrigeration equipment below 60 kw.

**Self-contained units** — This is the cheapest form of packaged air conditioning systems as all the equipment is assembled in one cabinet. Units are available with a refrigeration capacity from about 1.5 kw up to something in the region of 250-300 kw. In order to keep the units to a minimum physical size in the smaller units, air quantities are as low as possible so as to reduce the size of the air handling equipment and air pressures are low so as to limit the noise level.

In order to give a cooling capacity with low air quantity, the leaving air temperature has to be reduced thus giving rise to air distribution problems and great care must be taken to avoid drafts. The small conditioners up to 6 kw are known as room units and are made to fit within the conditioned space,

provided an external wall is available so that fresh air is available for the condenser.

In many instances these units also have fresh air facility. Where an external wall is not available, a split system may be used. Internal section or fan coil unit, is positioned in the space, and the condenser/condensing unit is positioned outside. Units of this type usually range from 1.5 kw to about 80 kw and are for either free air discharge or ducted discharge. The condenser or condensing unit, depending whether the compressor is sited externally or internally is separate from the unit which gives freedom to site the air conditioner in the most suitable position.

The only restraint imposed is that the duties are fixed to certain standard sizes and that they are vertically mounted free standing. The condenser should be as close to the unit as possible to minimise pipework costs and suction pressure losses, but the condenser can be as much as 30 m total travel of pipe for the unit.

Small condensers have only one fan but there can be a multiplicity of fans on larger con-



# THE COLCHESTER WOODS RANGE OF ROOF UNITS



## LEXDEN type DSM

Side discharge. Powered by Woods mixed flow fan units. Seven fan sizes. Air volumes up to 9.2m<sup>3</sup>/s. Publication RU25.3.



## LEXDEN type DVM

Vertical discharge. Powered by Woods mixed flow fan units. Five fan sizes. Air volumes up to 8.3m<sup>3</sup>/s. Publication RU25.4.



## BRAISWICK type DSP

Side discharge. Powered by Woods GP propeller fan units. Ten fan sizes. Air volumes up to 7.2m<sup>3</sup>/s. Publication RU25.1.



## STANWAY type BSM

Side discharge. Powered by Woods belt-drive mixed flow fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 10.0m<sup>3</sup>/s. Publication RU25.5.



## DEDHAM type BVC

Vertical discharge. Powered by Woods belt-drive centrifugal fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 10.3m<sup>3</sup>/s. Publication RU25.10.



## STANWAY type BVM

Vertical discharge. Powered by Woods belt-drive mixed flow fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 9.6m<sup>3</sup>/s. Publication RU25.6.



## BRAISWICK type DVP

Vertical discharge. Powered by Woods GP propeller fan units. Eight fan sizes. Air volumes up to 9.2m<sup>3</sup>/s. Publication RU25.2.



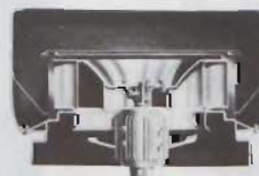
## BERGHOLT type DSC

Side discharge. Powered by Woods centrifugal fan units. Seven fan sizes. Air volumes up to 10.6m<sup>3</sup>/s. Publication RU25.7.



## DEDHAM type BSC

Side discharge. Powered by Woods belt-drive centrifugal fan units. Stand-by motor optional. Five fan sizes. Air volumes up to 10.8m<sup>3</sup>/s. Publication RU25.9.



## BERGHOLT type DVC

Vertical discharge. Powered by Woods centrifugal fan units. Six fan sizes. Air volumes up to 9.7m<sup>3</sup>/s. Publication RU25.8.

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### Cork

Washington Street, Cork. Telephone: (021) 23367

### Limerick

Published by ARROW@TU Dublin, 1985. Telephone (061) 317666

### Galway

Ballybane Industrial Estate, Galway. Telephone: (091) 53131

### Dundalk

Long Walk, Dundalk, Co. Louth. Telephone: (042) 355011.



For details circle 15

# RSL (Ireland) Ltd.

**Ireland's Leading Stockists  
and Distributors of Refrigeration  
and Air Conditioning Equipment**



48f Robinhood Industrial Estate,  
Clondalkin, Co. Dublin. Tel: 508011  
Telex: 24818

# ASEA (Ireland) Ltd

4 MOUNT STREET CRESCENT, DUBLIN 2. TELEPHONES: 767033, 764736, 607353

*In addition to the marketing of Flakt air conditioning products we are pleased to announce that since September 1984 we are marketing and manufacturing acoustic products in Ireland, under licence from Par Acoustics Ltd. U.K.*

**Duct Mounted Silencers  
Acoustic Rooms  
Generator Enclosures  
Burner Shrouds  
Acoustic Ceilings  
Acoustic Louvres  
Acoustic Plantrooms  
Acoustic Doors  
Boiler Flue Attenuators  
Hospital Acoustic Rooms  
Chiller Enclosures**

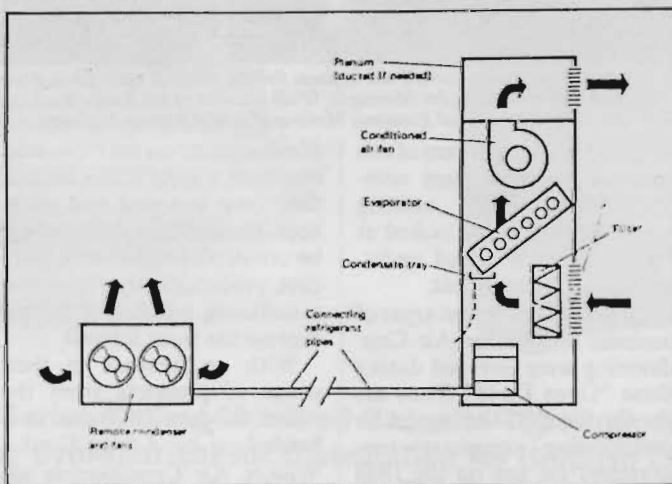


ACOUSTIC TEST ROOM

**FLAKT PRODUCTS include, air handling units, fan coils, V.A.V. terminals (see feature),**  
**diverter jet systems, dust remover systems, automatic waste disposal and reclaim**  
**systems, paint finishing systems, air scrubbers. Heat recovery: Wheels, coils, plate**  
**exchangers, heatpipes, centrifugal and axial fans.**



**Air Conditioning — Is it a Worthwhile Investment? —** We have seen that air conditioning can lead to happier



Ideally, the end user should, before he makes a decision, be totally aware of the implications for both himself, his staff and his production levels, should air conditioning systems be installed. It may be possible for him to relate the initial costings to his production level and if the initial costings can be paid by increased productivity. All of these points must be borne in mind when selecting air conditioning equipment.



## Leading the Pack with Liebert and Carrier

WALKER AIR Conditioning Ltd continues to be the dominant force as leading air conditioning distributor in the Irish market. The most successful "Open Days" which they held on the 12 and 13 of December 1984, epitomised the success which they had in that year and also summarised their objectives to continue that success.

The new product offerings from both Carrier and Liebert in the split systems and roof top packages — both as straight air conditioners and as heat pumps — have allowed Walker Air Conditioning to adopt a very positive attitude towards the promotion of a dealer network. Following the success of the dealer trip to Gleneagles in November, a potential dealers meeting was incorporated in these "Open Days", where a fully working model of the Carrier 53 series split system heat pump was on display as well as a 50YQ series roof top packages heat pump.

Walker Air Conditioning are confident that, with Carrier's extensive range of equipment in this area, they will have a most successful dealership operation in a very short time.

The increase in the range of capacities, plus the increase in the number of intermediate sizes of the Carrier range of 30 series air cooled and water cooled liquid chillers, has again allowed Walker Air Conditioning to be very successful in marketing this range of equipment. Further developments expected from Carrier, particularly in the low energy and heat reclaim aspects of these machines, will allow Walkers continued success.

The launch of the Liebert 3 and 5 ton Datamate Computer Room unit in October was followed by the repeated showing of this item of equipment during the "Open Days". Initial reaction to this machine has been excellent and Walkers have had to place an immediate second stock order to ensure sufficient quantities for 1985.

Also on display was a Liebert System 3 computer room unit in its glycol mode, identical to that which has been used by Telecom Eireann in its major contract with Walker Air Con-



• The new Carrier E-2000 CAD system has attracted a great deal of interest. Here Michael Buckley, Walker Director, is seen demonstrating it for a group of visitor's during one of the company's recent open days.



• Seamus Homan of S Homan & Associates with Michael Buckley, Director, Walker Air, and Kieran Quigley, Telecom Eireann.



• The contractors also turned out in force for the Walker open days. Seen here with Gerry Ross, Sales Manager, Walker (centre) are Eddie Buckley, Climate Engineering and Eamonn McGratten, McGratten & Kenny.

ditioning. Eighty per cent of this contract has now been completed and older existing exchanges are being looked at for modernisation and updating with this equipment.

Two totally different areas of business for Walker Air Conditioning were unveiled during these "Open Days". They are the Carrier E20-II range of air conditioning computer programmes for use on the IBM PC and the Carrier E2000 computer aided drafting system developed specifically for the building industry. Such an interest was shown in this latter system that Walker Air Conditioning are having a full week

of demonstration for those who could see a specific use for it in their own business and practices. These demonstrations will be conducted again at a later date, probably in the Autumn if a sufficient number of people express the same interest.

With an increase in their range of products from the Allied Product Divisions now headed up by Adrian Cooke, Walker Air Conditioning see this unit as a major growth area. Negotiations are currently in hand to increase all product offerings, which include cooling towers, air and liquid filters and pumps.

John Marriott, the Service Manager of Walker Air Conditioning has now been in

charge of this Department for a complete year and looks forward to expanding this operation in the areas of service labour, spares and maintenance contracts. A full 24-hour, 7-day-a-week service is offered and, with the locating of Stephen Mulvaney in Limerick, the service to customers in the south-west of Ireland has been substantially increased.

Details from Walker Air Conditioning Ltd, Dublin Industrial Estate, Finglas, Dublin 11, (Tel: 300844); Telex: 24862.

## SMC for Service

WHEN YOU order air conditioning equipment, you do so when products are competitively priced, technically advanced, reliable and easy to install, but more than that — you expect service.

SMC Air Conditioning specialise in the commissioning, maintenance, service and supply of heating, refrigeration, air conditioning systems and manufacturers of high quality high efficiency panel and bag filters.

Their HVAC product range is second to none, ie McQuay International for top-quality competitively-priced air handling units, reciprocating and centrifugal chillers and heat pumps.

Polacel cooling towers made of glassfibre reinforced polyester panels which are connected to SS-bolts to an SS-hollow profile frame.

Isovel for power management centres and modular environmental systems already serving many hundreds of computer room suites and other areas where control of the environment is critical.

Temperature Ltd for (i) Pres-tair; the ultimate in self-contained and split room air conditioners (air cooled and water cooled); (ii) Versatemp; which is a decentralised air conditioning system, providing full-time comfort for the occupants of a multi-room or open plan building.

A Versatemp system can have any number of individual water-to-air heat pump air conditioners, which are connected to a single two-pipe closed water system by means of hose connections. Up to 50% saving on plant space compared with



## COMMERCIAL REFRIGERATION CONTROLS

Danfoss commercial refrigeration controls are used all over the world because

- Danfoss has the widest range of valves and regulators for all types of commercial refrigeration plant.
- Experience, highly developed production facilities and advanced quality control methods ensure all the Danfoss products the same high quality.
- High quality means dependability, reliability and long life.
- It pays to buy all controls from same supplier i.e. simplified delivery and service.
- Danfoss controls not only meet the market demands of today, they are designed to meet the demands of tomorrow.



*Danfoss*

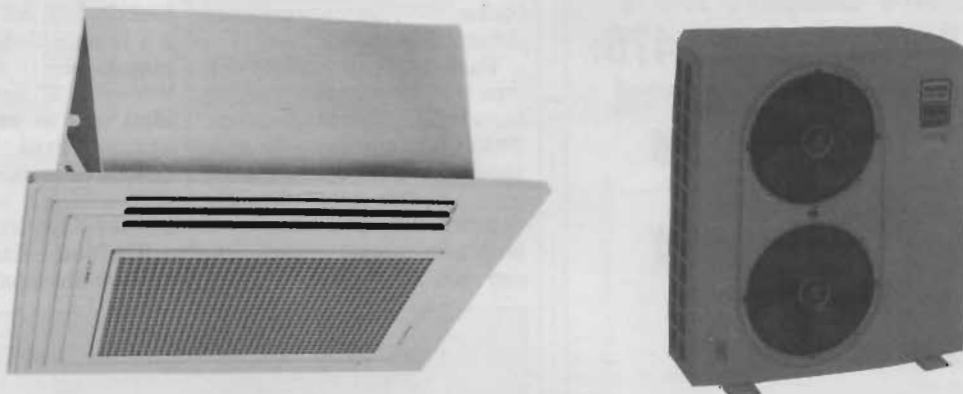
**J.J. SAMPSON & SON LTD.**

Unit 71  
Cherry Orchard Industrial Estate  
Dublin 10  
Telephone: (01) 26 81 11  
Telex: 92 219 jjss eim

34018

# DAIKIN

**NEW Sky Air Heat Pump Air Conditioners keep you in wall-to-wall comfort year 'round. They make the most of space. . . beautifully. . . save energy, and are easy to operate.**



**FHYC Series Ceiling Mounted Cassette Type Indoor Unit**  
**Two-Way Symmetrical Air Distribution for Uniform Comfort**  
— Available ex-stock from —

**coolair**

**AIR CONDITIONING/AIR DISTRIBUTION**

25 Cookstown Ind. Est., Tallaght, Co. Dublin, Ireland.  
Tel.: (01) 511 244/511 540 Telex: 31689 COOL EI

Mallow Road, Cork, Ireland.  
Tel.: (021) 503630, Telex: 26152





## Sandford Engineering Co.Ltd.



# Fire Dampers

**Now manufactured in Ireland by Sandford Engineering who invite comparison with all imported products in cost, quality, and delivery.**

### NOTE

- 1. Our TIFEU fire dampers are 4 hour tested to British Standard 476: Part 8 1972 and the International Standard ISO 834: 1975 and evaluated by the IIRS.**
- 2. Immediate manufacture and delivery following order.**
- 3. Any size supplied.**

**Sandford Engineering Co.Ltd.**

**Kill Avenue, Dun Laoghaire  
Tel: 806481**

centralised systems. No large ducting needed — which means real savings on building costs. An uncomplicated system which is simple to design and quick to install.

McQuay are introducing an important innovation for energy saving in air conditioning and refrigeration systems. The air cooled and water cooled chillers are equipped with variable speed, semi-hermetic compressors featuring two separate windings, four and eight poles, providing two different operating speeds, 1450 and 725 RPM respectively.

Capacity reduction is obtained by compressor

switching from high to low speed, without cylinder unloading. At the present state of art, this is the best way to obtain the highest COP (EER) values at reduced thermal load.

In summary SMC Air Conditioning has the technically advanced product range for all your needs and is in a position to offer you the kind of service which you demand with technical support and prompt delivery.

Details from SMC Air Conditioning, Unit 9, Jamestown Industrial Estate, Jamestown Road, Inchicore, Dublin 8, (Tel: 752125); Telex: 90460.

## Toshiba Means Quality

THE TOSHIBA range of room air conditioning equipment is distributed within the Republic by G T Phelan Ltd of Sandyford.

The name Toshiba is synonymous with quality and is widely known and respected throughout the world as a manufacturer of top-quality equipment. In the case of air conditioning products, a 3-year guarantee is given, covering parts and labour. This speaks volumes for the manufacturer's confidence in the quality of their product.

The range includes window/wall, split, and mobile units, together with the innovative heat exchange fans, and of course the dry-mini dehumidifier.

There are four window/wall type heat pump units, ranging from 1000-19000 Btu/hr, and a 24000 Btu cooling only unit, supplied with auxiliary electric heater. A slide in/out chassis is common to all models, and facilitates simple installation and routine inspection. The

rotary compressor is extremely quiet in operation.

Split units are available for high wall, ceiling and floor mounting, and the range has now been supplemented by the all new cassette unit, designed for installation within a false ceiling. All models are available as heat pumps, with the exception of the floor mounting unit, which is cooling only. Outputs range from 8000 - 4600 Btu/hr — heating or cooling.

Toshiba's self-contained mobile cooling units offer a wide range of installation applications. Available in two sizes, 5600 and 8000 Btu/hr, they can be simply wheeled in and plugged in, to provide instant cooling. All that is needed is a 13 amp plug, and access to atmosphere for venting through a 2" flexible hose. An ideal unit to use as standby against fixed plant break downs, or in locations where it is considered impractical to install a fixed cooling system.

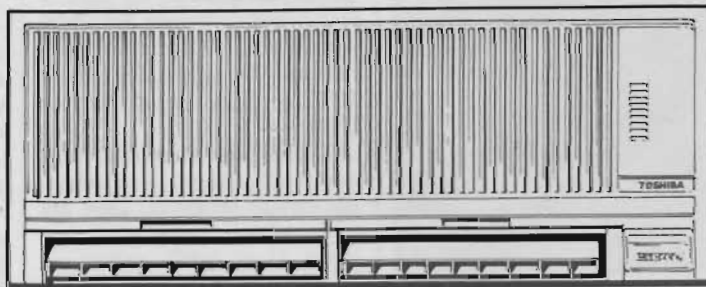
The heat exchange ventilating fans are capable of recover-



• The Toshiba RAC-21 window/wall air conditioner heat pump unit from G T Phelan.



# Conditions in summer. Heats in winter. Saves all year round.



Whatever type of air conditioning system you're after, you'll find it at your Toshiba distributor.

We will introduce you to the full range of Toshiba air conditioning/heat pump systems.

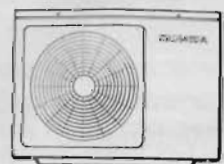
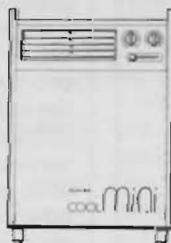
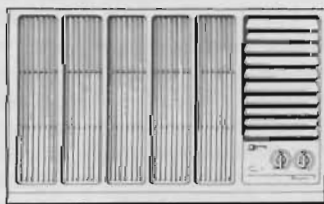
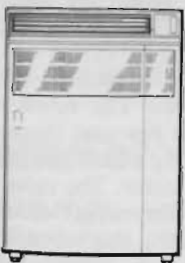
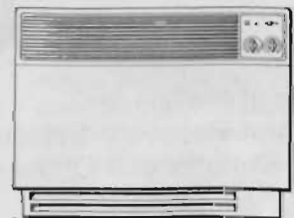
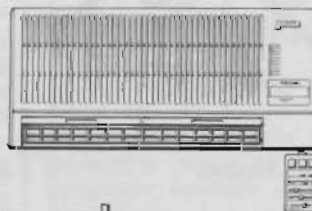
From conventional room air conditioners to multi-split and single-split systems.

From unique mini, mobile air conditioning units to energy-saving heat exchange ventilating fans and dehumidifiers.

Whichever you choose, you'll benefit from a solid 3-year guarantee on parts and labour.

As well as a design which makes installation simple, maintenance minimal and operation economical.

For all the facts, contact your Toshiba distributor. We will be only too happy to make your life more comfortable.



Making life more comfortable

# TOSHIBA

## G.T. Phelan Ltd.

SANDYFORD CO. DUBLIN TELEPHONE: 952234



ing 70% of heat from extracted air. Extremely quiet in operation, and inexpensive to run, they are proving very popular.

The Toshiba dry mini dehumidifier, with its modern clean styling, and quiet operation, is capable of extracting 4½ litres of water per day. An ideal unit for homes, offices, mobile homes, etc.

Details from G T Phelan Ltd, 29 Coolkill, Sandyford, Co Dublin, (Tel: 952234).

## A Busy Year for Sandford

IT IS JUST one year since Sandford Engineering launched their new Irish-manufactured TIFEU fire dampers. During that short time they have made a considerable impact on the Irish market. TIFEU fire dampers have been specified and supplied to such major projects as

Verbatim 111 Limerick, Mater Private Nursing Home, Bord Telecom new exchanges to name just a few. Most leading Consulting Engineers are now specifying TIFEU fire dampers on their Irish Republic projects.

Sandford Engineering see a busy year ahead. In spite of these challenging times they are at present recruiting new trainees to cope with future orders. TIFEU fire dampers are completely Irish manufactured at their Dun Laoghaire factory which means quick delivery to any part of Ireland within a few days. They have been fire-resistance tested for a period of four hours to British Standard 476:Part 8: 1982 and the International Standard ISO 834: 1975 and evaluated by the IIRS.

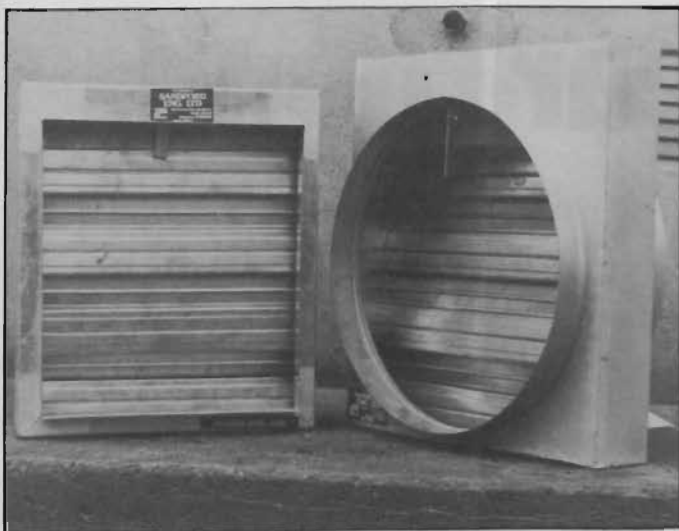
TIFEU fire dampers have many advantages over imported similar products. They are very robust, being manufactured from 18G galvanised outer casing. Folding blades are rolled from 22G 304 2B stainless steel. Tension springs are also stainless steel which means

the dampers are of good anti-corrosive quality.

At present the company manufactures three different types. Type A damper is mainly for high pressure ducted air conditioning systems, suitable for any type of rectangular flanged joints; Type B is suitable for low pressure air conditioning and ventilation rectangular ducted systems. Sections can be bolted together into banks to form any size required; Type C is suitable for round ducted high pressure air conditioning systems. All welded joints ensure minimum air leakage.

All TIFEU dampers blades are spring loaded and out of air stream and designed for minimum air resistance. All dampers are activated by means of a fusible link normally 72°C. High ratings can be made available on request.

A comprehensive catalogue giving further details can be obtained from Malachy Loughran at Sandford Engineering Company Ltd, Kill Avenue, Dun Laoghaire, Co Dublin, (Tel: 806481).



• Examples from Sandford Engineering's very successful range of Irish-made fire dampers.

For all your  
requirements at  
competitive prices



Liquid Chillers  
Heat Pumps and  
Heat Recovery Systems  
Computer and Office raised floors  
Air Handling Units  
Packaged and split packaged units  
Dehumidifiers  
Computer Room A/C Systems  
Selection and design facilities  
Commissioning Service  
Maintenance

## Shamrock Air Conditioning Ltd.

Unit 4, Lilmar Industrial Estate,  
Coolock Lane, Santry.

Tel: 427853/427069

For details circle 21

## Danfoss Zone Valves

DANFOSS PRODUCE a wide range of on/off electric zone valves in both two-port and three-port versions. These valves can be combined with time clock, cylinder thermostats or room thermostats, also from the Danfoss range, to meet most zone valve requirements in both domestic and commercial systems.

ABV-VMT — Two-port valve: The VMT is a low cost two-port seated valve based on the well proven RAV radiator thermostat valve body. Two versions of the valves are available, one for pumped systems, type VMT-/8, another for gravity systems type VMT-/2.

The ABV is a thermal-hydraulic actuator having spring return function which combined with VMT, 240v and 24v versions are available in both spring open or spring closed forms. Sizes available from 15 to 28mm, with copper compression connections.

ABV-VMV — Three-port valve; The ABV-VMV is a small gunmetal three-port mix-

ing valve with thermal-hydraulic actuator. The valve can be used for on/off diverting application, the valve body being mounted on the return pipework. The ABV actuator is available in 240v and 24v versions, normally opening the valve bypass when power is removed from the actuator. Sizes available from ½" to 1½" BSP.

AMB 123 — HRE — Three-port valves: The AMB 123-HRE is a low cost three-port mixing valve with on/off reversing gear motor. The valve can be used for on/off diverting applications, the valve being mounted in the return pipework. The AMB 123 actuator is available in 240v and 24v versions. Sizes available from ¼" to 2" BSP.

For further technical details and up to date catalogues contact J J Sampson & Son Ltd, 71 Cherry Orchard Industrial Estate, Ballyfermot Road, Dublin 10 (Tel: 26811); Telex: 92219.



## FLAKT VAV SYSTEM

THE FLAKT VAV system offers the most energy efficient way to maintain a comfortable room air conditioned. It keeps the room temperature within comfort limits by means of cool air supplied at the required rate which is controlled by a room thermostat. Outdoor air can thus be utilised for free cooling during the greater part of the year.

For heating purposes the system can include a reheater or be combined with perimeter heating.

The Flakt jet technique gives four important reasons to specify the Optivent VAV System.

**Optimum comfort** — By utilising the jet technique, the Optivent system can maintain a controlled, draughtfree air movement, a uniform air change rate and an even temperature distribution in the entire occupation zone under all load conditions.

**Small air jets** serve to induce a large proportion of room air quickly into the cool supply air stream, and distribute the resulting mixture of air just below room temperature in the desired direction and always with a constant throw length.

**Architectural flexibility** — Standard supply devices with integrated jet nozzles are available for ceiling or wall mounting and for all room sizes. Both air distribution pattern and throw length can easily be adjusted to match the requirement of each space. Thus future changes to the layout or use can also be accommodated. The architect is completely free to select any ceiling construction.

**Low energy costs** — The annual air volume is reduced to

a minimum resulting in: less fan energy; and longer filter life. No heating energy is wasted to compensate surplus room cooling.

**Low investment costs** — Using the jet technique allows a low supply air temperature to be selected. A room supply air temperature of 12°C instead of 14-15°C will for example mean, that all air handling equipment can be selected for approximately 20% lower air flow resulting in small ducts and less plant room space. Required capacity of room heating system is the lowest possible since no room will be supplied with surplus cooling.

Details from ASEA Electric (Ireland) Ltd, 4 Mount Street Crescent, Dublin 2, (Tel: 767033/764736/607353).

## Cosa/Tron Contamination Control Systems

THE COSA/TRON system is an additional discipline to high-efficiency filters, in a normal air-handling system serving heated ventilated and air conditioned spaces.

The Cosa/Tron systems is an additional discipline to high-efficiency filters, in a normal air-handling system serving heated ventilated and air conditioned spaces.

The Cosa/Tron system controls the deposition or plating-out of fine particles on vertical, horizontal and inverted surfaces within the conditioned space. This reduces the odours and irritating effects of fine particles on occupants of the space. The system protects the surfaces and the occupants from the staining and irritating effects of these space-generated fine particles.

## Total Capability from GEC

GEC DISTRIBUTORS (Ireland) Ltd handle a wide range of industrial and domestic equipment in the heating and ventilating field.

Principal products are those manufactured by Woods of Colchester Ltd; Keith Blackman Ltd; GEC Xpelair Ltd; Claudgen Ltd; and Redring Ltd.

Total capability is the Woods of Colchester theme and GEC Distributors can boast the same with the comprehensive stock of their products including regulatable axial aerofoil fans 150 mm to 800 mm, fume cupboard fans, roof units curb and purlin mounted. The ever popular GP propeller fan is available ex-stock from 250 mm diameter to 800 mm all regulatable.

Keith Blackman Ltd offer a

large selection of quality centrifugal fans with direct or indirect drive available in ISIW or DIDW, and a range of bifurcated fans capable of operating in a temperature of 320°.

Xpelair fans offer a whole range of controlled ventilation that makes living and working a fresher and cleaner business. Their range of window, wall and roof mounted fans are available in 6", 9" and 12" diameters. The 9" and 12" models are available with controllers and now available is a group control unit to handle 6 x 9" fans or 4 x 12" fans.

Further information on the complete range of ventilation equipment is available from GEC Distributors (Ireland) Ltd, 15/19 Hendrick Street, Dublin 7, (Tel: 775413).

The Cosa/Tron system is an not replace filters. It allows the filters to be more effective in the air-handling system, based on the conditioned air change rate, and the efficiency of the filters.

Why is an additional system necessary to control contamination when we already have high-efficiency filters available?

The American Society of Heating, Refrigeration and Air

Conditioning engineers and others have found that approximately 99% of all the contamination in the air is one (1) Micron and smaller based on size particle distribution.

Information about the concept, its application and availability can be obtained from Shamrok Air Conditioning Ltd, Unit 4, Lilmar Industrial Estate, Dublin 9, (Tel: 427069/427855).

## Comprehensive Coolair Range

THE NEW Daikin Skyair heat pump air conditioner is the latest addition to the comprehensive range of Daikin equipment currently available from Coolair Ltd, the Dublin and Cork-based air conditioning specialists.

Called the FHYC Series, the new indoor unit is a ceiling mounted cassette type giving two-way symmetrical air distribution for uniform comfort.

The bilateral discharge louvers distribute the air evenly, without drafts or hot spots, and the cassette design allows flexible, easy installation. The system has cooling capacities from 7.8KW to 13KW and heating capacities from 7.9KW to 14KW.

An optional decoration panel is also available, in ivory white or coffee brown, to accept most decors. The new systems, which is available ex-stock, comes

with a choice of two outdoor units. Both the RY3LA and the RY4L.5L are efficient, compact and easy to install.

The multi-system room air conditioner is capable of connecting two or three fan coil units. This system also allows the units to be placed in different rooms for independent or simultaneous use.

The SkyAir unit is ideal for offices, shops, restaurants and conference rooms and is available as a floor or wall-mounted unit in a choice of simulated walnut or ivory finishes.

In addition to Daikin, Coolair is also the distributor of Barber Colman, Airedale and VAPAC equipment in Ireland. Coolair are at 25 Cookstown Industrial Estate, Tallaght, (Tel: 511244/511540) and at Mallow Road, Cork (Tel: 021-503630).

## Baltimore Appoint MacFarlane

BALTIMORE AIRCOIL, one of the largest international manufacturers of cooling towers and evaporative cooling equipment, have appointed P & D MacFarlane Ltd as their representatives. Baltimore have not previously been represented in Ireland.

Based in Baltimore USA, the company has 13 factories worldwide and supplies the European market from their second largest plant in Belgium.

Located in Belfast, Mac-

Farlane have 20 years experience in supply management as distributors and agents for leading equipment and systems manufacturers in the engineering and mechanical services field. Baltimore aircoil products complete their airconditioning programme.

For further information and quotations contact Donald Megahey, CEng, MInstE, P & D MacFarlane Ltd, 51/53 Ridgeway Street, Belfast, (Tel: 084 681111); Telex: 74219.



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## DIARY DATES

DATE	VENUE	ACTIVITY
14 . 2 . 85	IMI Sandyford Dublin	Major Seminar — Hospital Services
21 . 3 . 85	Grand Hotel Malahide	Afternoon Seminar Lighting and the External Environment

# Hospital Building Services — One Day Seminar

**DATE** February 14th 1985

**VENUE** Irish Management Institute, Sandyford,  
Dublin.

**FEE** £75 per person, payable in advance. The fee  
includes lunch, teas, coffees, and all papers.

**Exhibition** Suppliers of hospital-related equipment will  
be mounting an exhibition in connection  
with the seminar.

**After-  
wards** On the night of the seminar an informal  
dinner will be held to honour all  
participating speakers. Those wishing to  
attend should include an additional £14  
with registration.

The hospital sector is one of the most significant in the government's  
Public Capital Programme. Consistently so, too; the projected 1985  
expenditure of £58,000,000 is only 10% less than the all time peak  
and expenditure for 1986 and 1987 is scheduled to be well up to the  
1985 figure.

*Building Services would represent 20%-25% of the programme  
total.*

The hospital sector is one of continuous and dynamic change and,  
in so far as services are concerned, is surely unique in its  
sophistication and complexity.

This seminar takes the present state of the art as a starting point  
and aims to look forward to prospective development. An exhibition  
is being organised in conjunction with the event.

The subject matter will be of interest to specifying designers,  
architects, mechanical and electrical contractors, health authority  
technical staff and hospital management staff.

## Morning Session

**Chairman — Mr. John Bolton, DHSS, London**  
9.15-9.45 Registration

9.45-10.00	Opening Address	Mr. Seamus Pattison Minister of State
10.00-10.30	Keynote Paper: The Hospital of 2000 A.D.	Mr. John Bolton Chief Works Officer DHSS London
10.30-10.45	Response to Keynote Paper	Mr. Tom Gallagher Principal Engineering Adviser, Dept. of Health
10.45-11.05	Coffee in Exhibition Area	
11.05-11.35	Operating Cost Control	Mr. David Luscombe Superintending Quantity Surveyor, DHSS London
11.35-12.05	Communications	Mr. Pat Ryan, Siemens
12.05-12.35	Air Conditioning & Ventilation	Mr. Sean Mulcahy, VMRA
12.35-1.05	Lighting — Recent Research	Ms Margaret Halstead Lighting Division Chairman, CIBS London
1.05-1.30	Discussion Period	
1.30-3.00	Lunch and Visit to Exhibition	

## Afternoon Session

**Chairman, Mr. Eoin Kenny, J.A. Kenny & Partners**

3.00-3.20	Central Plant	Mr. Tim O'Brien J. A. Kenny & Partners
3.20-3.40	Medical gases	Mr. Hugh Fortune, BOC Gas Services Ltd.
3.40-4.00	The trend in hospital catering	Ms. Mary Henry ESB
4.00-4.20	The ETCI Regulations and Hospitals	Mr. Charles O'Neill ETCI
4.20-5.00	Open discussion	
5.00-5.05	Close	
5.05-5.30	Visit to exhibition	

## Registration Form

Name .....  
 Organisation .....  
 Address .....  
 .....  
 Phone .....  
 Name .....  
 Organisation .....  
 Address .....  
 .....  
 Phone .....

*I Enclose Cheque/Postal Order for*

£ .....

*Payable to C.I.B.S. Republic of Ireland Branch.*

Signed .....

**Completed Forms with fee to:**

Mr. Greg Traynor,  
Hon. Treas. C.I.B.S.,  
2 Lansdowne Tce., Dublin 4.

*Attendance will be limited.*

*Please reply immediately.*



# Economists — 'Experts' Rather than Decision Makers

by  
**JOHN LYNCH**



• John Lynch is Chief Executive of the Irish Productivity Centre and was formerly Director of Business Policy with the Confederation of Irish Industry. He was also the first Smurfit Professor of Business Law at Galway University.

This is the time of year when economists practice their art of crystal-ball gazing. The previous year is reviewed and a projection made for the next year. Problem is that, firstly nobody ever checks on their prognostications a year later so they normally get away scot free. Secondly, even if somebody does "haul them over the coals" they usually have an excuse like unforeseen decisions by "the government" be it the Irish, UK, or USA government. Finally, it should always be remembered that they are 'experts' — not decision makers.

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For instance, a retailer in an agricultural area will obviously be affected by agricultural output and incomes but this could not necessarily be the case of a retailer in the urban area.

## REASONABLE

Well how will 1985 be? Reasonable is the answer. National output in 1985 at +1.75% will be lower than that achieved in 1984, most of the increase in national output coming from manufacturing industry with a 6% increase down from an admittedly high of 10% in 1984. Construction output will show no change on 1984 and the general outlook for agriculture is poor.

Agriculture, the backbone of the economy, will not fare too good. Nineteen eighty four saw agricultural output grow by 7%; things will not be so in 1985. It will fall by 2%. This is mainly due to the superlevy which will ensure that there will be no growth in milk output. Tillage is unlikely to maintain 1984 yield and beef output is also likely to fall back. So, we can anticipate a fall in output and low price

increases for the second year in a row, particularly in the milk sector. In summary, agricultural incomes will probably not increase, which means that real income decrease could be around 5%.

The favourable trends in manufacturing industry in 1984 will continue in 1985. The modern sector of computers and chemicals will still account for the bulk of output growth, although this will slow from 23% to 10%, mainly because economic recovery in Europe will be in a more mature phase in 1985.

## WORST PERFORMER

The resource-based traditional sector comprising food and timber will perform the worst of the three main sectors mainly because of an expected poor performance in the food sector, eg dairying industry.

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ing, textiles and engineering many of the weaker firms have already suffered in the severe shakeout of the last few years. As such, aggregate output in this sector may be less affected by plant closures, than has happened in recent years. However, this sector's output will continue to be constrained by the weak home market.

## NEGATIVE IMPACT

The Public Capital Programme will again have a negative impact on construction with new roads spending the only relatively buoyant area. Local Authority housing will slip back a bit after an increase in 1984. Private housing is expected to increase shortly from the very low levels of 1984. However, this increase is not expected to be very large in view of the continuing depressed real income levels and rising unemployment as well as the forthcoming mortgage rate increase. Overall, output will show no change on 1984.

The linkages of manufacturing industry to the private service sector of the economy are not expected to be much greater in 1985. It is hoped that inward tourism will again have a good year. However, consumer demand will only have a small increase of 1.0% mainly because of low nominal income increases in many areas of the economy, eg public sector, agriculture and a stagnant employment trend. The overall result for private services output is an increase of 1.5%.

## CUT BACKS

Public sector cutbacks will continue to affect public service output. Output and employment will decline by about 1%.

Conclusion: The 1985 profile of GDP growth emphasises the need to maximise the national economic benefits of growth in the modern industrial sector. Even though inflation has been brought down to single figures, underlying sectoral problems will continue to pressure the employment situation. In other areas, 1985 is likely to set the pattern for the next few years. Irish agriculture is struggling to cope with the superlevy and other EEC CAP restrictions, while not having solved most of its historical problems. The difficulty in providing fiscal stimulus to the economy will mean that manufacturing industry will have to carry most of the burden of providing growth in the economy.



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## DIARY DATES

DATE	VENUE	ACTIVITY
14 . 2 . 85	IMI Sandyford Dublin	Major Seminar — Hospital Services
21 . 3 . 85	Grand Hotel Malahide	Afternoon Seminar Lighting and the External Environment

## Hospital Building Services — One Day Seminar

- DATE** February 14th 1985
- VENUE** Irish Management Institute, Sandyford, Dublin.
- FEE** £75 per person, payable in advance. The fee includes lunch, teas, coffees, and all papers.
- Exhibition** Suppliers of hospital-related equipment will be mounting an exhibition in connection with the seminar.
- After-wards** On the night of the seminar an informal dinner will be held to honour all participating speakers. Those wishing to attend should include an additional £14 with registration.

The hospital sector is one of the most significant in the government's Public Capital Programme. Consistently so, too; *the projected 1985 expenditure of £58,000,000* is only 10% less than the all time peak and expenditure for 1986 and 1987 is scheduled to be well up to the 1985 figure.

*Building Services would represent 20%-25% of the programme total.*

The hospital sector is one of continuous and dynamic change and, in so far as services are concerned, is surely unique in its sophistication and complexity.

This seminar takes the present state of the art as a starting point and aims to look forward to prospective development. An exhibition is being organised in conjunction with the event.

The subject matter will be of interest to specifying designers, architects, mechanical and electrical contractors, health authority technical staff and hospital management staff.

## Morning Session

**Chairman** — Mr. John Bolton, DHSS, London  
 9.15-9.45 Registration

9.45-10.00	Opening Address	Mr. Seamus Pattison Minister of State
10.00-10.30	Keynote Paper: The Hospital of 2000 A.D.	Mr. John Bolton Chief Works Officer DHSS London
10.30-10.45	Response to Keynote Paper	Mr. Tom Gallagher Principal Engineering Adviser, Dept. of Health
10.45-11.05	Coffee in Exhibition Area	
11.05-11.35	Operating Cost Control	Mr. David Luscombe Superintending Quantity Surveyor, DHSS London
11.35-12.05	Communications	Mr. Pat Ryan, Siemens
12.05-12.35	Air Conditioning & Ventilation	Mr. Sean Mulcahy, VMRA
12.35-1.05	Lighting — Recent Research	Ms Margaret Halstead Lighting Division Chairman, CIBS London
1.05-1.30	Discussion Period	
1.30-3.00	Lunch and Visit to Exhibition	

## Afternoon Session

**Chairman, Mr. Eoin Kenny, J.A. Kenny & Partners**

3.00-3.20	Central Plant	Mr. Tim O'Brien J. A. Kenny & Partners
3.20-3.40	Medical gases	Mr. Hugh Fortune, BOC Gas Services Ltd.
3.40-4.00	The trend in hospital catering	Ms. Mary Henry ESB
4.00-4.20	The ETCI Regulations and Hospitals	Mr. Charles O'Neill ETCI
4.20-5.00	Open discussion	
5.00-5.05	Close	
5.05-5.30	Visit to exhibition	

## Registration Form

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Organisation .....

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Phone .....

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Organisation .....

Address .....

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Phone .....

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Signed .....

**Completed Forms with fee to:**

Mr. Greg Traynor,  
Hon. Treas. C.I.B.S.,  
2 Lansdowne Tce., Dublin 4.

*Attendance will be limited.*

*Please reply immediately.*



# Economists — 'Experts' Rather than Decision Makers

by  
**JOHN LYNCH**



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## BY PAT LEHANE

Want to get something off your chest? Do you have a bee in your bonnet over some specific industry-related problem or practice that you'd like to air your views on? Well, now's your chance. From next month onwards *Irish H & V News* will be running a new series called "Guest Writer".

Rather than have me select a topic and ask someone to write on it, the idea of "Guest Writer" is that individuals can choose whatever subject matter they like to sound off on. It doesn't even have to be about the industry!

We already have a number of guests lined up but, if there's something in particular that you feel strongly enough about to commit to paper, then get in touch immediately.

While on the subject of new features, "Face to Face", first introduced just before Christmas, will now continue every month while "Another Side of..." will also appear in every issue. On the latter point, if you know of someone whose hobby or pastime is of a more unusual nature, then let me know.

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On the subject of reader response, I would like to thank all of you who've returned the Reader Enquiry cards when requesting further details on product information. This is another new facility which, when properly used ensures that every reader's enquiry is comprehensively answered.

\*\*\*

Put now to more use  
DOI: 10.21427/DVCMAB

Government's so-called National Energy Policy. As if the industry isn't suffering enough in the Dublin region from the many problems which have arisen indirectly and directly because of the delays in natural gas coming on stream, the same lethargy and indecisiveness is now becoming apparent where the future of the Limerick and Cork town gas utilities are concerned.

Cork Gas, while close to liquidation and badly needing to half its workforce if it's to stand any chance of surviving, is still the closest to salvation, being as it is a privately-owned concern.

AMGAS — the private consortium led by Calor and including Tedcastle Oil Products, Irish Life and McMullan Brothers — has indicated an interest in Cork Gas, especially now that the conversion programme is all but completed. With a customer base of nearly 30,000 they obviously

see the potential awaiting exploitation with the proper marketing effort.

However, Minister responsible for energy matters, Dick Spring, has made it quite clear on a number of occasions recently that he wants State control of both Cork and Limerick.

He is in a position to block any deal with AMGAS and Cork Gas under the guise of Bord Gais Eireann. As the main creditor, the Bord can dictate the outcome of any liquidation procedure.

The same Dick Spring is also responsible for the continuing losses being reported by Limerick Gas. AMGAS initially went after Limerick Gas but, with the utility owned by Limerick Corporation and thereby answerable to the Minister, they stood no chance, despite the support of City Councillors.

So where precisely does gas come in to the

Government's National Energy Plan? Their administration of the country's biggest-ever energy resource — natural gas — has proved nothing short of disastrous so far. The potential and opportunities identified and predicted with its discovery some years back were accurate — the failure has come about as a result of non-professionals being in control.

The sad thing about it is that the Government seems to have learned nothing from its experiences of the last couple of years.

By the time some action is taken — or allowed to be taken by the private sector — in the case of Limerick and Cork town gas utilities, it will once again be a salvage situation rather than a positive step forward.

What's needed is for the industry to make a

concerted and unified appeal to the Minister before it's too late. All the Associations and representative bodies must co-ordinate their efforts into a single national campaign aimed at opening the Minister's eyes.

Only then is he — and the Government he represents — likely to take the voice of the industry seriously enough to recognise that it is the professionals who are the experts... not the so-called "economic advisers".

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Still on the subject of gas, as we went to press the appointment of Michael Gallagher (Deputy Chief Executive of BGE) to the position of Commercial Manager, Dublin Gas, seemed imminent. Both career wise and financially, a very wise move Michael.

And can you take it. Just one more short on gas... but this time it's good news. BGE has to be congratulated on the signing of a £70 million deal with Pfizer. It's estimated that the country as a whole — in terms of the balance of payments — will be over £50 million better off. Well done BGE.

• Next month our business analyst — John Lynch, Irish Productivity Centre Chief Executive — will go through the Budget with a fine tooth comb to determine just precisely what the implications are for the services sector.

## BSS (IRELAND) GUESS WHO?



• My apologies to Brendan Stack (right) for that wonderful caption in last month's issue. I was obviously just having one of those days. After 21 years with BSS you deserve to be recognised, not to mention poor John Rowdan who has nearly 30 years service behind him. Thank you both for taking it so well.





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